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Site Team Evaluation Prioritization (STEP) Report

For

Chemical Recovery Systems

Location City, County: Elyria, Lorain

U.S. EPA ID: OHD 057 001 810

Prepared by: Lawrence J. Antonelli

**OHIO ENVIRONMENTAL PROTECTION AGENCY
Division of Emergency & Remedial Response**

Date: September 29, 1997

Site Team Evaluation Prioritization (STEP) Final Report

Site Name: Chemical Recovery Systems

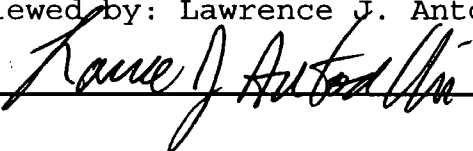
City, State: Elyria, Ohio

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Date: 9/29/97

Site Coordinator, District Office
Division of Emergency & Remedial Response
Ohio Environmental Protection Agency

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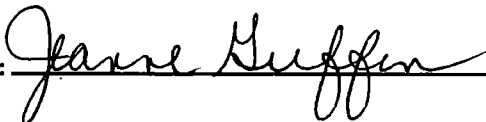
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1.0 EXECUTIVE SUMMARY

Ohio Environmental Protection Agency (Ohio EPA) personnel conducted a Site Team Evaluation Prioritization (STEP) investigation at the former Chemical Recovery Systems facility in Lorain County, Ohio on August 14, 1996. This STEP was performed under the United States Environmental Protection Agency (U.S. EPA) site investigation protocol. The purpose of this STEP was to determine if the disposal practices at the Chemical Recovery Systems site released contaminants into the environment, specifically to soils, ground water, and surface waters.

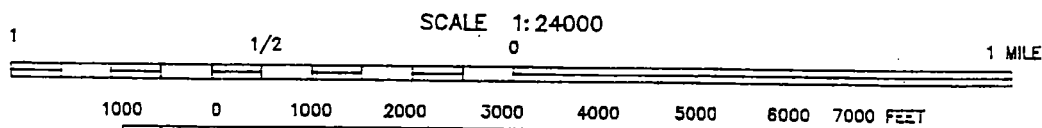
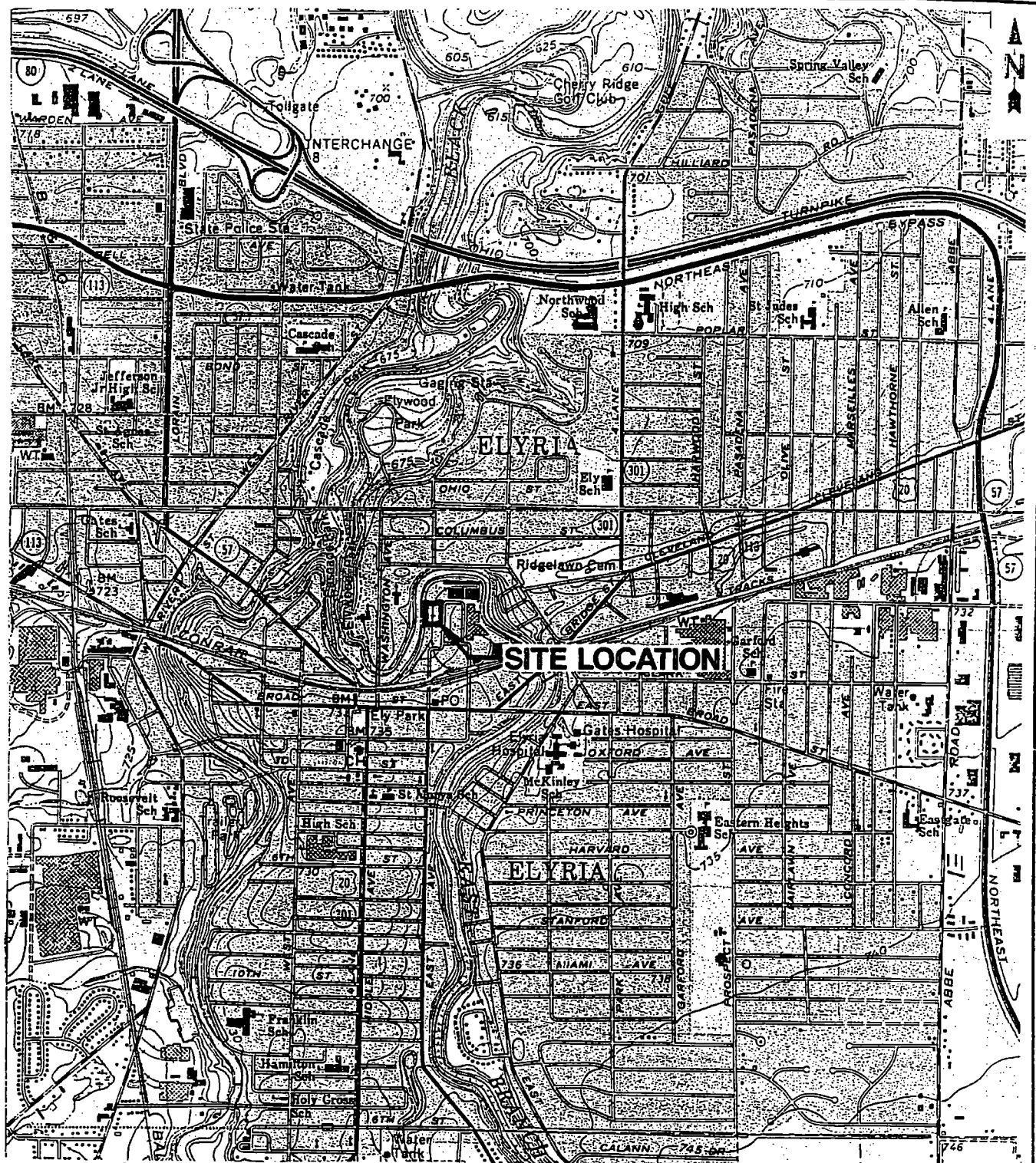
2.0 INTRODUCTION

The Ohio Environmental Protection Agency (Ohio EPA) Division of Emergency and Remedial Response (DERR) formed a cooperative agreement with the U.S. EPA Region V to conduct a Site Team Evaluation Prioritization (STEP) of the Chemical Recovery Systems site, U.S. EPA ID# OHD 057 001 810 (latitude N 41 22' 14.45", longitude W 82 06' 14.8"). This report was prepared to address potential effects the site has to the surrounding areas.

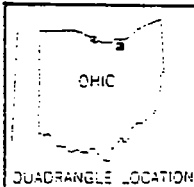
3.0 SITE BACKGROUND

3.1 Site Description:

The Chemical Recovery Systems (CRS) site is located at 142 Locust Street in Elyria, Lorain County, Ohio (latitude 41 degrees, 22' 14.45" N and longitude 82 degrees, 06' 14.8" W) (USGS 1979a). The site location is shown on Figure 1. The site is bordered to the west by the East Branch of the Black River, to the north by the Harshaw Chemical Company, to the east by the Harshaw Chemical Company and Locust Street, and to the south by the M&M Aluminum Siding Company. The CRS site is located in a predominantly industrial and commercial setting near the central business district of Elyria, Ohio (PRC 1995a). The CRS site consists of a 4-acre site that is currently leased to M&M Aluminum Siding. M&M Aluminum Siding uses the site to store scrap aluminum and junked cars. Currently, two buildings are located on the CRS site: (1) a former warehouse and office building and, (2) a Rodney Hunt Still building where the former Rodney Hunt Still was located. Both of these buildings are located in the southeast corner of the site.



SCALE: 1" = 2,000'



QUADRANGLE LOCATION

CHEMICAL RECOVERY SYSTEMS, INC.
ELYRIA, OHIO

FIGURE 1
SITE LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

SOURCE: MODIFIED FROM USGS,
GRAFTON, OHIO, QUADRANGLE, 1979g; AND
AVON, OHIO, QUADRANGLE, 1979d

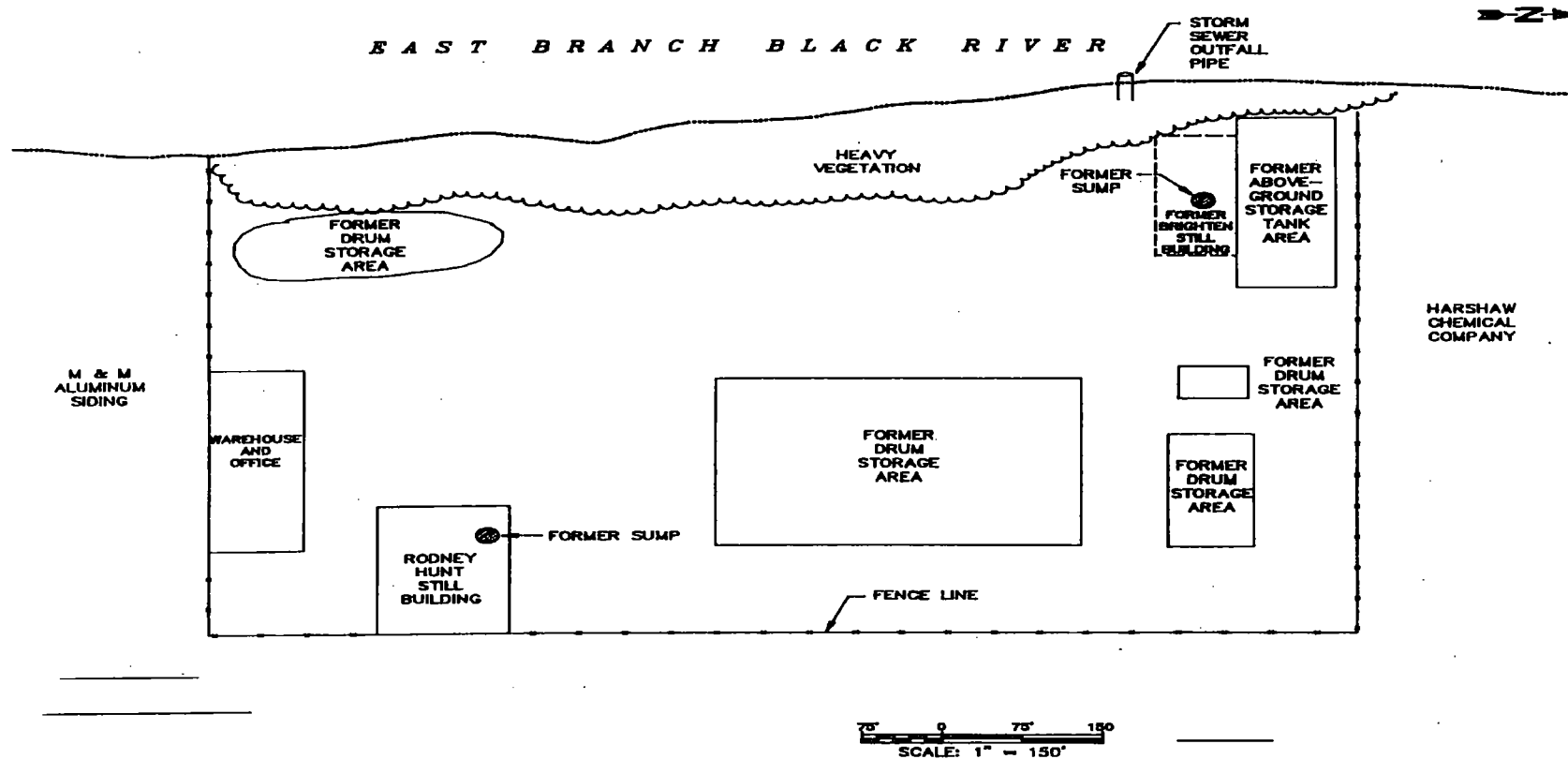


Figure 2. Generalized site features map (after PRC, 1995).

A foundation from the former Brighten Still building is located in the northwest corner of the site. The site is fenced on all sides except the side bordering the East Branch of the Black River. Figure 2 depicts a generalized site features map.

3.2 Site History:

The CRS site is currently owned by Mrs. Russell Obitts. Information about prior ownership is unavailable. Mr. Obitts owned and operated the Obitts Chemical Company at the site prior to 1974 (E&E, 1986). Obitts Chemical Company's operations and dates of operations are unknown. Mr. Obitts leased the property to CRS in 1974. As part of it's operations, CRS received spent organic solvents from various industries, distilled these solvents on - site, and sold the reclaimed solvents back to industry. CRS operated the site from 1974 until 1980 or 1981 (OEPA, 1980b). CRS went bankrupt prior to 1983 (E&E, 1983a).

Spent solvents that were transported to the CRS site include the following: acetone, hexane, isopropyl alcohol, methylene chloride, methyl ethyl ketone (MEK), tetrachloroethene (PCE), toluene, trichloroethene (TCE), and xylene (EPA, undated). During a visual inspection of the CRS site conducted by EPA on February 5, 1980, a employee of CRS indicated that solvents reclaimed by CRS included MEK, methyl - i - butyl ketone, toluene, xylene, aromatic hydrocarbons, aliphatic hydrocarbons, paint solvents, esters, and chlorinated hydrocarbons including 1,1,1 - trichloroethane (TCA), TCE, and PCE (EPA, 1980c). Solvent samples collected by EPA on November 26, 1979 detected PCE, ethyl benzene, and naphthalene (EPA, 1980a). A solvent sample collected on February 5, 1980 contained toluene, ethyl benzene, xylene, and naphthalene (EPA, 1980d).

Spent solvents from various industries were transported to the CRS site in either 55 - gallon drums or tanker trucks. CRS used its own trucks to haul spent solvents to the site. Spent solvents from the tanker trucks were transferred into above ground storage tanks (AST) located in the northwest corner of the site (EPA, undated). The CRS site had nine AST's having a total capacity of 53,500 gallons which were improperly grounded, vented, and constructed as well as violated State of Ohio fire codes (EPA, undated; CEHD 1979c). The 55 - gallon drums were stored in four main areas at the site, three of which were located in the northern portion of

the site. The fourth drum storage area was located in the southwestern corner of the site (EPA, 1983a). During numerous site inspections conducted by EPA, Ohio EPA, and the city of Elyria Health Department (CEHD), 4,000 to 9,000 55 - gallon drums were observed on site, some of which were unmarked, deteriorating, and leaking their contents onto the ground (USDC, 1980; OEPA, 1980a; and EPA 1980b, 1980c, and 1980e).

CRS operated two distillation units: (1) a Rodney Hunt still that was housed in the southeastern corner of the site and (2) a Brighten still that was housed in the northwest corner of the site (EPA 1980c). CRS processed approximately 250,000 gallons of spent chemicals per month (EPA, undated). The distillation operation generated an average of 10,000 gallons of waste sludge per week (EPA 1980e). The majority of the waste was disposed of off site at Robert Ross & Sons, Inc., in Grafton, Ohio, and the Carter Oil Company in Michigan (USDC 1980; E&E 1982).

Two sumps formerly located inside the still buildings near the two stills were used to dispose of wastes (E&E 1982). These sumps were poorly constructed and may be a source of contamination; however, very little information is available regarding the construction of the sumps or where waste from the sumps was ultimately disposed of (EPA No Date). A sample of water was collected from one of the sumps by EPA on November 26, 1979. This sample contained polychlorinated biphenyls (PCBs) and ethyl benzene (EPA 1980a).

A release from the CRS site to the East Branch of the Black River has occurred based on direct observation and analytical results. On March 29, 1979, after a heavy rain storm, a dike surrounding one of the buildings at the CRS site filled with water. To correct the problem, a CRS employee dug a hole in the dike and allowed the liquid to run out of the dike area into the East Branch of the Black River (CEHD 1979b; USDC 1980). As a result of the release, an oily slick was observed on the East Branch of the Black River. Samples of the sludge inside the dike area contained xylene and toluene (CEHD 1979d).

A leachate stream was observed by EPA following from the CRS site to the East Branch of the Black River on April 24, 1980. Samples of the leachate and surface water from the river contained PCBs (USDC 1980). On August 31, 1978, members of CEHD and the State Fire Marshal's Office noted up to six leachate seeps flowing into

the East Branch of the Black River. CRS was in full production at the time of this inspection (USDC 1980; CEHD 1978).

A storm sewer pipe beneath the site discharges to the East Branch of the Black River. A City of Elyria engineer reviewed the storm sewer pipe's condition and concluded that fill operations at the CRS site had damaged the sewer pipe (Elyria 1979). Contaminants may, therefore, have migrated along the pipe and into the East Branch of the Black River from the CRS site (E&E 1982).

Because the site posed a danger to the local population and environment, EPA initiated local action under the Resource Recovery and Conservation Act (RCRA). On October 7, 1980, a civil action on behalf of EPA in the U.S. District Court, Northern District of Ohio, was brought against CRS to abate an imminent and substantial endangerment of public health and the environment from the CRS site (USDC 1980). A consent decree was issued on July 12, 1983, requiring CRS to complete the following actions (USDC 1983):

- * Excavate all visibly contaminated soil identified during a joint visual inspection conducted by representatives of EPA and CRS.
- * Excavate the perimeter of the Brighten Still building in the northwest corner of the site to a depth of 1 foot and a distance of 2 feet beyond the perimeter of the foundation.
- * Dispose of all removed soil at an EPA-approved, waste disposal site.
- * Backfill the excavated areas with clean, clay-containing fill.
- * Gently grade the site towards the East Branch of the Black River.

Prior to a hydrogeological and extent of contamination study performed by the EPA Field Investigation Team (FIT) between August 4 and September 16, 1981, CRS had removed all tanks, drums, and other spent solvent containers from the site; ceased the receipt, processing, and storage of spent solvents on site; and removed all distillation units from the site (E&E 1982). At the time of the consent decree, CRS had also secured the CRS site with a fence; filled in the sump under the Brighten Still building and sealed the

sump under the Rodney Hunt Still building with concrete; and leveled on-site dikes and rough graded areas (USDC 1983). CRS removed contaminated soils and disposed of them in an EPA-approved, waste disposal site by September 15, 1983 (EPA 1983b). After conducting a site inspection on November 7, 1983, EPA concluded that CRS was in compliance with the consent decree (EPA 1983b).

3.3 Previous Site Work

EPA, CEHD, and Ohio EPA have conducted numerous PA, inspections and investigations at the CRS site (CEHD 1979a and 1979b; E&E 1982, 1983, and 1986; Ohio EPA 1980a; WPA 1980a, 1980b, 1980c, 1980e, 1980f, 1983a, and 1983b). During these investigations samples of soil, groundwater, sediment and surface water were collected. Analytical results indicate that hazardous constituents have been released to the environment from the site.

The most extensive investigation of the site occurred in August and September 1981, when E&E, the EPA FIT contractor, conducted a hydrogeological and extent-of-contamination study at the CRS site. During the study, E&E collected groundwater, soil, sediment, and surface water samples. E&E installed four groundwater monitoring wells on site and sampled these wells in September 1981. Monitoring well W-1 was installed near the Brighten Still building. Monitoring well W-2 was installed near a former drum storage area. Monitoring wells W-3 and W-4 were installed on the far eastern edge of the site and were used as background monitoring wells. The following hazardous substances were detected at elevated concentrations: vinyl chloride; 1,1-dichloroethene (DCE); trans 1, 2-DCE; benzene; toluene; ethyl benzene; aluminum; chromium; barium; cadmium; copper; lead; nickel; and arsenic (E&E 1982). During a site reconnaissance conducted in June 1996, OEPA personnel located monitoring wells W-1 and W-2. The well casing remains of W-3 and W-4 were also found near their original location. These wells were apparently destroyed when the site was graded.

E&E also installed five soil borings during the study. Soil borings B-5 and B-6 were located near former drum storage areas. Soil boring B-7 was installed near the Brighten Still building. Soil boring D-8 was installed near the Rodney Hunt Still building, and soil boring B-9 was installed on the eastern side of the site and was used as a background sampling location. Samples were collected from the ground surface to up to 16.5 feet below ground

surface (bgs). The following hazardous substances were detected at elevated concentrations in soil collected from the borings: methylene chloride; 1,1,1-TCA; trans-1,2-DCE; TCE; PCE; benzene; toluene; ethyl benzene; PCBs; naphthalene; fluoranthene; 3,4-benzofluoranthene; benzo(k)fluoranthene; anthracene; benzo(g,h,i)perylene; phenanthrene; pyrene; benzo(a)anthracene; benzo(a)pyrene; chrysene; aluminum; boron; chromium; cobalt; copper; nickel; zinc; arsenic; cadmium; lead; antimony; mercury; and tin (E&E 1982).

E&E collected four surface water and sediment samples. Surface water and sediment samples SW-1/SS-1 and SW-s/SS-2 were collected upstream of the CRS site and were used as background samples. Surface water and sediment sample SW-3/SS-3 was collected near the storm sewer outfall at the CRS site. Surface water and sediment sample SW4/SS4 was collected downstream of the CRS site. The following hazardous substances were detected at elevated concentrations in the surface water samples: methylene chloride; chloroethane; 1,1-dichloroethane (DCA); vinyl chloride; TCE; PCE; benzene; toluene; 1,1,1-TCA; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; cadmium; nickel; manganese; selenium; and thallium. The following hazardous substances were detected at elevated concentrations in sediment samples: methylene chloride; chloroethane; 1,1-DCE; 1,1,1-TCA; vinyl chloride; 1,1-DCA; trans-1,2-DCE; TCE; PCE; benzene; toluene; ethyl benzene; phenol; 1,2-dichlorobenzene; PCBs; bis(2-ethylhexyl)phthalate; naphthalene; dibenzo(a,h)anthracene; chromium; cadmium; copper; nickel; and zinc.

The EPA FIT also conducted a site inspection on February 5, 1986, during which it collected three surface water samples (E&E 1986). Surface water sample S3 was collected upstream of the CRS site. Surface water sample S2 was collected near the storm sewer outfall on the CRS site. Surface water sample S1 was collected near the southern edge of the CRS site. None of the analytes were present at an elevated concentration in the samples.

3.4 Site Geology & Hydrology

The CRS site is underlain by fill materials composed of sandy clay mixed with bricks and cinder materials (E&E, 1982). The fill thickens towards the East Branch of the Black River. The fill thickness ranges from 4 feet near Locust Street to 18 feet near the

East Branch of the Black River (E&E, 1982). Thin lenses of sandy clay, sand, and silty sand are located beneath the fill material. These lenses have a average thickness of 4 feet (E&E, 1982). Unconsolidated materials at the CRS site are underlain by the Mississippian age Berea Sandstone. Bedrock is located at approximately 4 feet below ground surface (bgs) on the eastern side of the site, and bedrock occurs at approximately 20 feet bgs on the western side of the site near the East Branch of the Black River (Herron, 1979). The Berea Sandstone below the site is a arenitic sandstone that is a source of potable water, oil, and natural gas (NOGS, 1970).

Ground water beneath the CRS site is present at approximately 10 feet bgs and flows toward the East Branch of the Black River (E&E, 1982). Drinking water wells within 4 miles of the CRS site are screened in the Berea Sandstone (E&E, 1982).

Approximately 1,295 people use private wells that draw water from within a 4 - mile radius of the site (Frost, 1995). The nearest drinking water well to the site is between 0.5 to 1 mile from the site (Frost, 1995). Drinking water wells in the area are

screened in sandstone which is hydraulically connected to the upper unconsolidated units beneath the CRS site (E&E, 1982). No ground water-based municipal water supply systems are located within a 4 - mile radius of the site (PRC 1).

Private ground water well usage data indicate that the following populations use private wells within the specified distance from the site: 3 people between 0.5 and 1 mile; 112 people between 1 and 2 miles; 518 people between 2 and 3 miles; and 662 people between 3 and 4 miles (Frost, 1995).

4.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS

Groundwater, surface water, sediment, and soil samples, were collected during the Site Team Evaluation Prioritization (STEP) investigation performed August 14, 1996. Samples were analyzed by U.S. EPA Contract Laboratory Program laboratories. Analyses included the following parameters: Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, PCBs, and TAL metals. Figure 3 shows site sampling locations.

Complete analytical results of this investigation are contained in Appendix A. Data were reviewed by U.S. EPA Region V personnel for compliance with the Contract Laboratory Program, and validated by Region V Central Regional Laboratory staff.

Standard Quality Assurance and Quality Control (QA/QC) procedures for Site Investigation (SI) field activities were followed during the investigation. These procedures, including sample collection, packaging and shipping, and equipment decontamination, are documented in the Quality Assurance Project Plan (QAPP) for Region V Superfund Site Inspection Activities for Ohio EPA and Ohio EPA Field Standard Operating Procedures.

4.1 Groundwater

Previous investigations and reports indicated that 4 monitoring wells existed for sampling on the CRS site. However, during STEP field activities only 2 of these wells could be located. Three actual ground water samples were taken from the two wells located. These wells were identified as MW1 and MW2. These samples are designated as EAQZ/MEACZ4 (MW 1 before purge), EAQZ/MEACZ1 (MW 1 after purge), and EAQZ/MEACZ0 (MW 2). Both of these wells are considered to be hydraulically down gradient, and a background well was not available for comparison. Monitoring Well 1 (MW1) had a static water level of 17.7', and MW2 had a static water level of 18.15'.

4.2 Surface Water

A total of 4 surface water samples were collected from the East Branch of the Black River. They are designated as EASK/MEABX0 (downstream), EASK/MEABX1 (adjacent), EASK/MEABX3 (background), and EASK/MEABX4 (outfall).

4.3 Sediment

A total of three sediment samples were collected during field work plus a replicate. The samples are designated as EAQR/MEACS1 (downstream), EAQR/MEACS2 (adjacent), EAQR/MEACS3 (background), and EAQR/MEACS5 (replicate of 2). Sample locations were picked based on a evaluation of historical records, potential source areas, and site reconnaissance. The background sample was chosen in the field.

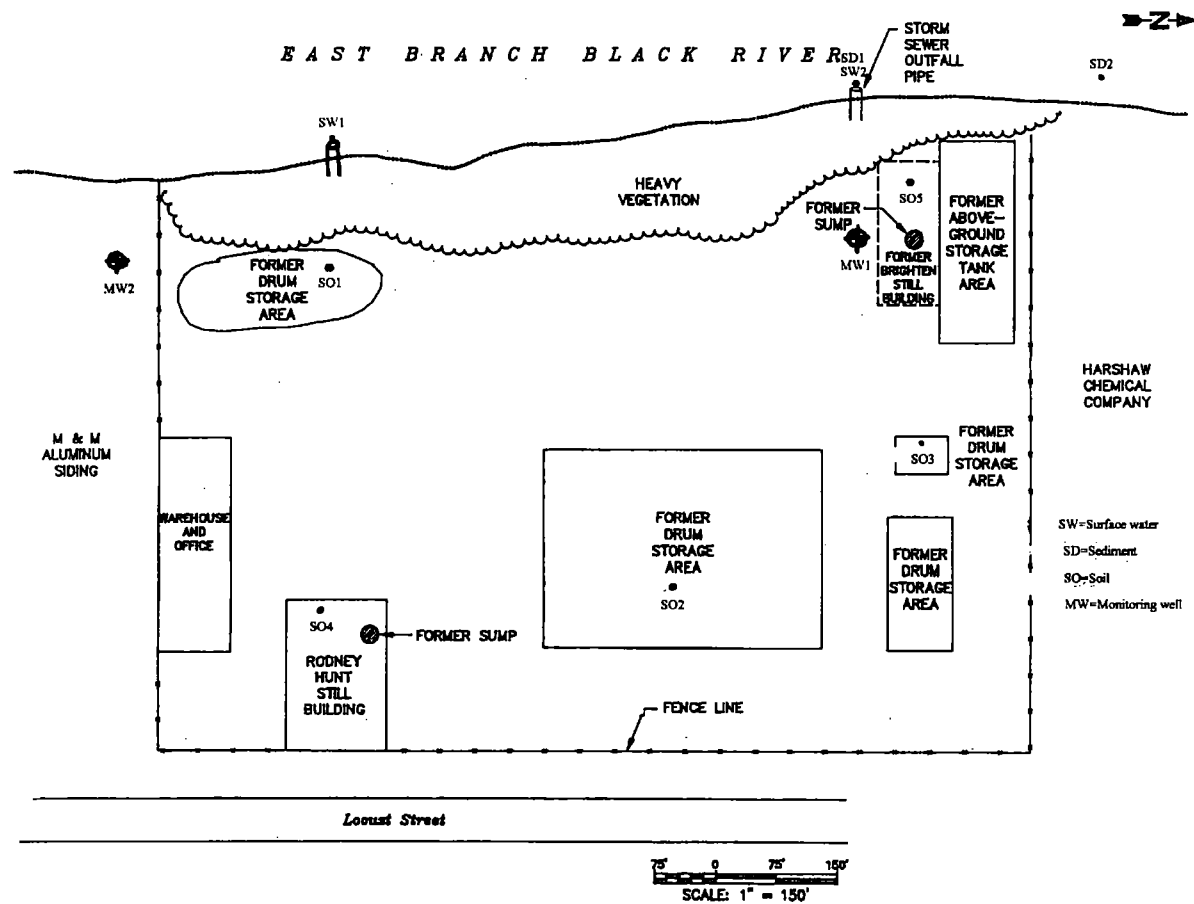


Figure 3. Site sampling locations.

4.4 Soil

A total of four (4) samples and a replicate was taken from site soils at the site. Soil samples were collected to determine the potential for direct contact exposure to contaminants, and to establish potential for migration and leaching. All sample locations and one replicate sample were collected based on the evaluation of historical records, and physical appearance of potential source areas.

Soil samples were collected from the following locations and designated as EASN/MEAGH0 (SW drum area), EASN/MEAGH1 (W. drum area), EASN/MEAGH2 (outfall area), EASN/MEAGH3 (replicate of W. drum area), and EASN/MEAGH4 (Brighton still former location). All samples were collected from depths of 3 to 6 inches.

5.0 DISCUSSION OF ANALYTICAL RESULTS

U.S. EPA Contract Laboratory Program (CLP) laboratories were utilized for all sample analysis. Samples were analyzed for volatile organic compounds (VOC's), extractable semi-volatile organic compounds (BNA), pesticides, polychlorinated biphenyls (PCB's), metals, and cyanide. All substances analyzed for consist of the Target Analyte List (TAL), and the Target Compound List (TCL). The data was reviewed by U.S. EPA personnel for compliance with the CLP, and validated by Region 5, Central Regional Laboratory staff.

5.1 Soil Samples

Several VOC's, SVOC's, and TAL metals were detected in all soil samples. Low levels of pesticides/PCB's were detected in soils and results are described below. Due to the large number of detections of SVOC's and TAL metals, only the highest three concentrations for those compounds are listed in this section. Please refer to the data sheets for complete results. During sampling there was no area on-site which would accurately define background conditions, therefor no background soil samples were taken.

Volatile organic contamination was detected in all samples at relatively low levels. The most notable detections were 1400 mg/kg

of 1,2-dichloroethene, and 500 mg/kg of tetrachloroethene in EASN/MEAGH0. This sample also detected 1,1,1-trichloroethene at 14 mg/kg, and acetone (a common lab contaminant) at 66 mg/kg.

Sample EASN/MEAGH1 and the associated replicate, contained 1,1,1-trichloroethene at 45 mg/kg and 94 mg/kg respectively. These samples also detected trichloroethene at 130 mg/kg and 540 mg/kg respectively. Sample EASN/MEAGH1 detected tetrachloroethene at 1200 mg/kg, whereas EASN/MEAGH3 detected 1,1,2-trichloroethene at 40 mg/kg. Sample EASN/MEAGH4 had the highest number of VOC detections. The following parameters were detected: acetone (800 mg/kg); 2-butanone (170 mg/kg); 1,1,1-trichloroethane (51 mg/kg); trichloroethene (100 mg/kg); 4-methyl-2-pentanone (27 mg/kg); tetrachloroethene (290 mg/kg); toluene (51 mg/kg); ethyl benzene (18 mg/kg); and, total xylenes (89 mg/kg). With respect to SVOC contaminants, sample ID EASN/MEAGH0 detected flouranthene (6800 ug/kg), pyrene (4600 ug/kg), and benzo (b) flouranthene (3800 ug/kg) at the highest concentrations. Sample EASN/MEAGH1 detected bis (2)-ethylhexyl phthalate (1300 ug/kg), and chrysene (280 ug/kg) at highest concentrations.

There were several SVOC detections in EASN/MEAGH2. The most significant include pyrene (6900 ug/l), benzo (a) pyrene (5900 ug/l), and benzo (b) flouronthenene (4400 ug/kg). Sample EASN/MEAGH4 had the fewest number of detections of SVOC's; however, significantly elevated concentrations of isophorone (3500 ug/kg), bis (2-ethylhexyl) phthalate (4400 ug/kg), and butylbenzylphthalate (8000 ug/kg) were detected.

With respect to pesticides/PCB's, low levels were detected in all soil samples. Sample EASN/MEAGH0 detected 4,4DDT (16 ug/kg), sample EASN/MEAGH1 detected beta-BHC (6.9 ug/kg) and gamma-BHC (7.5 ug/kg). Sample EASN/MEAGH2 detected endosulfan II (11 ug/kg), alpha-chlordane (16 ug/kg), and gama chlordane (8.3 ug/kg). The replicate sample of MEAGH0 detected similar concentrations for beta BHC, and gama BHC. Sample EASN/MEAGH4 detected 4,4DDE (6.3 ug/kg), methoxychlor (15 ug/kg), and aroclor - 1232 (1100 ug/kg).

Several TAL metals and cyanide were detected in site soils at elevated concentrations. Aluminum was detected in all samples from 5210 mg/kg - 11, 400 mg/kg; antimony from 6.4 mg/kg - 109 mg/kg; arsenic from 7.2 mg/kg - 71.7 mg/kg; barium from 64.1 mg/kg - 1100 mg/kg; cadmium from 1.5 mg/kg - 70.3 mg/kg; chromium from 9.3 mg/kg - 755 mg/kg; cobalt from 4.5 mg/kg - 238 mg/kg; copper from 32

mg/kg - 310 mg/kg; lead from 56.3 mg/kg - 1180 mg/kg; zinc from 103 mg/kg - 1460 mg/kg; and, cyanide from 0.6 mg/kg - 31.6 mg/kg. Table 1 shows results of soil samples taken at the site during this investigation.

5.2 Ground Water Samples

Ground water samples detected in VOC's, SVOC's, low level PCB's/pesticides, and elevated TAL metals/ cyanide. Monitoring well #1 had 2 samples taken from the well designated as EAQZ/MEACZ4 and MEACZ1. Sample MEACZ4 had been sampled before purging, and sample MEACZ1 was sampled after purging. The highest levels of VOC's in sample MEACZ4 were total xylenes at 73,000 ug/l, toluene at 9900 ug/l, and ethylbenzene at 3800 ug/l. After purging, VOC levels in MEACZ1 slightly increased to 86,000 ug/l for total xylenes, 4900 ug/l for ethyl benzene, and 11,000 ug/l for toluene. Monitoring well #2 designated as EAQZ/MEACZ0 had lower concentrations of VOC's detected. Results for this well include hits of total xylene at 15 ug/l, tetrachloroethene at 170 ug/l, and trichloroethene at 21 ug/l. Sample EAQZ/MEACZ0 was a replicate of MEACZ1 and contained similar concentrations of the same parameters. Concentrations and parameters detected in MEACZ1 were similar to those detected in the replicate MEACZ3.

With respect to VOC's, sample MEACZ4 detected 1,2 - dichloroethene at 1300 ug/l, toluene at 9900 ug/l, ethyl benzene at 3800 ug/l, and total xylenes at 73,000 ug/l. Sample MEACZ1 was sampled after purging and detected slightly higher concentrations of the same parameters. Sample MEACZ0 had low level detections of VOC's. The highest values reported were 21 ug/l trichloroethene, and 170 ug/l of tetrachloroethene. Sample MEACZ3, which was a replicate of MEACZ4, detected the same parameters at similar concentrations.

Low levels of SVOC's were detected in all samples.

With respect to the pesticide/PCB analysis for ground water, the most notable detections were 2.3 ug/l of Aroclor 1248, and 5.3 ug/l of Aroclor 1254 in sample MEACZ4.

Several TAL metals and cyanide were detected at elevated concentrations in all ground water samples. For purposes of this discussion, only the 3 highest values are reported for each well. Sample MEACZ1 (after purging) detected arsenic (466 ug/l), cyanide

(49.7 ug/l), and aluminum (901 ug/l). Sample MEACZ0 detected cadmium at 457 ug/l, zinc at 1750 ug/l, and aluminum at 311 ug/l. Sample MEACZ3 (replicate of EACZ4) detected aluminum (2250 ug/l), zinc (5270 ug/l), cyanide (105 ug/l), lead (27.1 ug/l), chromium (137 ug/l), cadmium (21.4 ug/l), and barium (244 ug/l). This sample had the highest level of inorganic analytes detected.

5.3 Surface Water Samples

Low levels of VOC's were detected in surface water sample EASK/MEABX4 (outfall). The most significant detections include vinyl chloride (65 ug/l), 1,1-dichloroethane (110 ug/l), 1,1,1-trichloroethane (18 ug/l), benzene (19 ug/l), ethylbenzene (71 ug/l), and total xylenes (19 ug/l).

With respect to TAL metals/cyanide, sample EASK/MEABX, which was designated as an up stream control sample, detected the highest levels of inorganics. This sample contained 232 ug/l aluminum, 3.8 ug/l arsenic, and 46.3 ug/l barium. Sample EASK/MEABX4 detected antimony (107 ug/l), barium (159 ug/l), cadmium (26.2 ug/l), chromium (48.6 ug/l), copper (709 ug/l), lead (10.4 ug/l), nickel (111 ug/l), and zinc (121 ug/l). This sample was taken below a south side outfall emanating from the site.

5.4 Sediment Samples

VOC contamination was limited. A detection of 2-butanone (4 ug/kg) in sample EAQR/MEACS1. Sample MEACS2 detected 2 ug/kg ethyl benzene, and 13 ug/kg total xylenes. The upgradient/background sediment did not detect VOC's. Sample MEACS5 (replicate of MEACS2) detected 37 ug/kg of 2-butanone, and 34 ug/kg of benzene.

With respect to semi-volatile contamination, MEACS1 detected dibenzofuran at 100 ug/kg. Sample MEACS2 detected 74 ug/kg of dibenzofuran. Sample MEACS3 which was designated as a background sample was the most contaminated. The highest detections were phenanthrene (1000 ug/kg), flouranthene (1800 ug/kg), pyrene (2100 ug/kg), and chrysene (1000 ug/kg).

Aroclor - 1254 was detected at 100 ug/kg in sample MEACS1. The most elevated and significant detections of SVOC's, pesticides/PCB's, and TAL metals were in sample MEACS3, which was intended to represent upstream/background conditions.

6.0 MIGRATION PATHWAYS

Elevated site related contaminants were detected in all environmental media during this STEP investigation. Potential migration pathways and targets of site contaminants are discussed in this section. During the course of this investigation, information and analytical data was gathered to demonstrate that contamination to migration pathways. The five pathways evaluated are ground water, surface water, sediment, soil, and air.

6.1 GROUND WATER MIGRATION PATHWAY

6.1.1 Ground Water Utilization

Ground water beneath the CRS site is present at approximately 5 to 10 depth and flows west toward the East Branch of the Black River (E&E, 1982). Drinking water wells within 4 miles of the CRS site are screened in the Berea Sandstone (E&E, 1982).

Approximately 1,295 people use private wells that draw water from within a 4 mile radius of the site (Frost, 1995). The nearest drinking water well to the site is between 0.5 and 1 mile away. Drinking water wells in the area are screened in sandstone that is hydraulically connected to the upper unconsolidated units beneath the CRS site (E&E, 1982). No ground water-based municipal water supply systems are located within a 4-mile radius of the site (PRC1). Private ground water well usage data indicate that the following populations use private wells within the specified distance from the site: 3 people between 0.5 and 1 mile; 112 people between 1 and 2 miles; 518 people between 2 and 3 miles; and 662 people between 3 and 4 miles (Frost, 1995).

6.1.2 Ground Water Releases

During the current STEP Investigation, VOC's, SVOC's, low-level PCB's/Pesticides, and elevated TAL metals/cyanide were detected inground water. MCL exceedances were documented for the following parameters: total xylenes, toluene, ethyl benzene, tetrachloroethylene, trichloroethylene, and 1, 2 -dichloroethylene. Both Aroclor species (1248 & 1254) exceeded MCL's. Inorganic parameters exceeding MCL's include arsenic, cadmium, and chromium.

Based on analytical results, a high potential exists for ground water contamination to leach into surface water. The potential for private drinking water supplies to be impacted by the site is relatively low due to the East Branch of the Black River acting as a hydraulic barrier between the site and the majority down gradient receptors. Since the setting of the site is industrial, impact to surface water from the CRS site needs further attention through additional sampling and investigatory work.

6.2 Soil Pathway

The main sources of soil contamination was from improper drum storage practices at the site. As discussed in detail in section 5.1, high concentrations of VOC's, SVOC's, TAL metals, and low concentrations of pesticides/PCB's were detected in on-site soils, and are likely migrating to ground water. No residences, schools, daycare facilities, or sensitive populations are located close to the CRS site. Only 1 upgradient resident is located within 1 mile of the site. The site is fenced and access to the site is restricted. The primary threat of exposure to the soils at the site is from direct contact to workers. It is unknown how many employees work at M&M Aluminum Siding.

6.3 Surface Water Migration Pathway

Surface water pathway targets include intakes that supply drinking water, fisheries, and sensitive environments. From the site, surface water runoff flows into the East Branch of the Black River. The Black River flows north by northeast, then empties into Lake Erie. The area of concern (CRS site) runs from the probable point of entry (PPE) downstream fifteen miles to the target distance limit (TDL). Drinking water targets include surface water intakes. From the PPE to the TDL there are no intakes and therefore no targets exist via this route. Elywood Park, Cascade Park, and Washington Park, located along the Black River, are picnic areas only. French Creek Park and Black River Park are also located along the Black River and offer picnic areas, as well as permitted fishing. There are approximately 4 miles of wetlands located in the 15 mile TDL (PRC, 1995). Federally endangered species including the bald eagle (*Haliaeetus leucoccephalus*) and the Indiana bat (*Myotis sodalis*) are known inhabitants in Lorain County, and possibly in areas along the Black River within the 15 mile TDL. Appendix B shows the 15-mile downstream Target Distance Limit, and

Appendix C shows the 4-mile Resource Population ring map.

Low levels of VOC's were detected in surface water during the STEP Investigation. Section 5.3 summarizes the most significant contaminants detected and their respective concentrations. The upstream control sample contained the highest levels of TAL metals.

6.4 Sediment Pathway

Sediment samples demonstrated limited VOC contamination. The designated upstream/background sample was the most contaminated with SVOC's, PCB's, and TAL metals.

6.5 Air Migration Pathway

During previous SSI investigations, no release of TCL/TAL constituents to the air has been documented. The most likely target of this pathway would be to workers in the areas of former drum handling.

7.0 REFERENCES

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 23. EPA.1983b. November Monthly Tracking Report for the CRS Site. November 17.
 24. U.S. Geological Survey (USGS).1979a. 7.5-Minute Series Topographic Map of Grafton, Ohio, Quadrangle.

APPENDIX A

COMPLETE ANALYTICAL RESULTS

Table 1 -- C.R.S. Summary of Soil Sample Results

09/29/97

ORGANIC & INORGANIC TRAFFIC NO.		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
DATE/TIME SAMPLE COLLECTED		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
DATA QUALIFIERS		MS/MSD	N/A	N/A	Replicate of W. Drum Area	N/A
DESCRIPTION		SW Drum Area	W. Drum Area	Outfall Soil	Central Drum Area	Brighton Still
VOLATILE ORGANIC COMPOUNDS		CRQL				
chloromethane	10 ug/kg				/500 JD	
bromomethane	10 ug/kg				/680 JD	
vinyl chloride	10 ug/kg				/480 JD	
chloroethane	10 ug/kg				/450 JD	
methylene chloride	10 ug/kg				/170 JD	
acetone	10 ug/kg	66 J	63 J		50 J/	800
1,2-dichloroethene (total)	10 ug/kg	1400		4 J	16 /180 JD	
2-butanone	10 ug/kg					170
1,1,1-trichloroethane	10 ug/kg	14 J	45 J		94 J/220 JD	51 J
trichloroethene	10 ug/kg	19000 E	130	4 J	540 /220 JD	100
1,1,2-trichloroethane	10 ug/kg		10 J		40 J/	
4-methyl-2-pentanone	10 ug/kg					27 J
tetrachloroethene	10 ug/kg	500	1200	9 J	5500 E/2200 D	290
toluene	10 ug/kg					51 J
ethyl benzene	10 ug/kg					18 J
xylene (total)	10 ug/kg				230 JD/	89
SEMI-VOLATILE ORGANIC COMPOUNDS		CRQL				
isophorone	330 ug/kg				3300/ 3600	3500/ 3500
naphthalene	330 ug/kg	150 J/ 140 J	/ 180 J	300 J/ 290 J	120 J/ 120 J	/ 210 J
2-methylnaphthalene	330 ug/kg	260 J/ 260 J	130 J/ 110 J	120 J/ 140 J		
acenaphthylene	330 ug/kg	120 J/ 120 J	140 J/ 120 J	2300/ 2300	100 J/ 120 J	
acenaphthene	330 ug/kg			160 J/ 120 J		
dibenzofuran	330 ug/kg	130 J/ 130 J				
diethylphthalate	330 ug/kg					910 J/ 910 J
fluorene	330 ug/kg			160 J/ 120 J		
phenanthrene	330 ug/kg	3400/ 3400	110 J/ 99J	1300/ 1200	92 J/ 93 J	
anthracene	330 ug/kg	470 J/ 510 J	50 J/	750 J/ 650 J		
di-n-butylphthalate	330 ug/kg	110 J/	110 J/ 100 J	110 J/ 94 J	90 J/ 98 J	1900 J/ 1800 J
fluoranthene	330 ug/kg	6800/ 6900	160 J/ 150 J	4000/ 4000	110 J/ 120 J	
pyrene	330 ug/kg	4600/ 4700	220 J/ 200 J	6900/ 9400 E	260 J/ 270 J	
butylbenzylphthalate	330 ug/kg		340 J/ 310 J	420 J/ 490 J	360 J/ 390 J	8000/ 8800
benzo(a)anthracene	330 ug/kg	2300/ 2300	170 J/ 150 J	2200/ 2700	160 J/ 180 J	
chrysene	330 ug/kg	3700/ 3800	260 J/ 280 J	3400/ 3100	240 J/ 230 J	
bis(2-ethylhexyl)phthalate	330 ug/kg	720 J/	1100/ 1300	940/ 1100	1400/ 1400	3900/ 4400
benzo(b)fluoranthene	330 ug/kg	3800/ 4400	430 J/ 360 J	3800/ 4400	380 J/ 330 J	
benzo(k)fluoranthene	330 ug/kg	1900/ 2100	270 J/ 240 J	2500/ 1600	170 J/ 220 J	
benzo(a)pyrene	330 ug/kg	2400/ 2500	250 J/ 220 J	5900/ 5900	180 J/ 190 J	
indeno(1,2,3-cd)pyrene	330 ug/kg	700 J/ 600 J	130 J/ 110 J	1900/ 1600	160 J/ 130 J	
dibenzo(a,h)anthracene	330 ug/kg		69 J/	740 J/ 630 J		
benzo(g,h,i)perylene	330 ug/kg	660 J/ 550 J	140 J/ 140 J	3000/ 2400	230 J/	

Table 1 -- C.R.S. Summary of Soil Sample Results

09/29/97

ORGANIC & INORGANIC TRAFFIC NO.		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
DATE/TIME SAMPLE COLLECTED		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" - 5'	4"-8"	3" +/-	4"-8"	5' - 6'
DATA QUALIFIERS		MS/MSD	N/A	N/A	Replicate of W. Drum Area	N/A
DESCRIPTION		SW Drum Area	W. Drum Area	Outfall Soil	Central Drum Area	Brighton Still
PESTICIDES/PCBs						
alpha-BHC	CRQL	1.7 ug/kg				3.4 P
beta-BHC	1.7 ug/kg	2.3 JP	6.9 P		8.4 P	2.7 ZP
gamma-BHC (Lindane)	1.7 ug/kg	1.1 JP	7.5 P		7.5 P	
heptachlor	1.7 ug/kg	0.16 ZJP				
aldrin	1.7 ug/kg	3.8 JP		0.037 ZJP		
heptachlor epoxide	1.7 ug/kg	1.8 ZJP	3.6 P	8.8 JP	3.7 P	
endosulfan I	1.7 ug/kg					1.8 JP
4,4-DDE	3.3 ug/kg					6.3
endosulfan II	3.3 ug/kg		4.7 P	11 JP	5.1 P	1.7 J
4,4-DDD	3.3 ug/kg		0.36 JP		0.63 ZJP	2.1 J
endosulfan sulfate	3.3 ug/kg		0.80 ZJP		1.9 ZJP	
4,4-DDT	3.3 ug/kg	16 J	1.4 JP	21 JP	2.0 J	4.0 P
methoxychlor	17.0 ug/kg					15 JP
endrin ketone	3.3 ug/kg			13 JP		
alpha-chlordane	1.7 ug/kg	4.4 ZJP	5.5 P	16 P	3.9 P	
gamma-chlordane	1.7 ug/kg			8.3 J	0.14 ZJP	0.20 JP
aroclor-1232	33 ug/kg					1100
TAL METALS/CYANIDE						
aluminum	CRDL	5210	4140	7170	5510	11400
antimony	40 mg/kg	6.4 B	14.7 B	12.1 B	21.4	109
arsenic	12 mg/kg	10.9	7.2	9.8	8.9	71.7
barium	2 mg/kg	94.4	64.1	221	73.9	1100
beryllium	40 mg/kg	0.77 B	0.68 B	0.60 B	0.77 B	0.97 B
cadmium	1 mg/kg	1.5	6.1	18.8	8.9	70.3
calcium	1 mg/kg	31600	82200	28000	78900	26600
chromium	1000 mg/kg	9.3	598	30.3	755	173
cobalt	2 mg/kg	4.5 B	5.0 B	10.9 B	6.9 B	238
copper	10 mg/kg	32	249	98.6	310	296
iron	5 mg/kg	15700	11100	17000	27500	25300
lead	20 mg/kg	60	56.3	383	75	1180
magnesium	0.6 mg/kg	4240	8480	3050	8930	4210
manganese	1000 mg/kg	335	381	1140	413	524
mercury	3 mg/kg	0.13			0.14	0.27
nickel	0.1 mg/kg	12.6	9.9 B	27.3	15.6	77.8
potassium	8 mg/kg	574 B	296 B	679 B	411 B	1440
selenium	1000 mg/kg		0.59 B			
sodium	1 mg/kg	182 B	134 B	228 B	134 B	285 B
thallium	1000 mg/kg	0.53 B		0.81 B		0.67 B
vanadium	2 mg/kg	13.3	6.3 B	12.3 B	6.5 B	139
zinc	10 mg/kg	195	103	1460	146	700
cyanide	4 mg/kg	0.77	0.85	31.6	0.6	24.8
	2 mg/kg					

B = estimated value; D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; N/A = Not Applicable; P = lower of two GC columns reported;

U = below detection limit; X = GC could not distinguish peaks; and, CRQL = Contract Required Quantification Limit.

Table 1 -- C.R.S. Summary of Soil Sample Results

ORGANIC & INORGANIC TRAFFIC NO.	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
DATE/TIME SAMPLE COLLECTED	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" - 5'	4"-8"	3" +/-	4"-8"	5' - 6'
DATA QUALIFIERS	MS/MSD	N/A	N/A	Replicate of W. Drum Area	N/A
DESCRIPTION	SW Drum Area	W. Drum Area	Outfall Soil	Central Drum Area	Brighton Still

Table 2 -- C.R.S. Summary of Ground Water Sample Results

09/29/97

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	NW Well	GW Trip Blank

VOLATILE ORGANIC COMPOUNDS	CRQL				
vinyl chloride	10 ug/l	2 J			
1,1-dichloroethane	10 ug/l	450 J	420 J	2 J	350 J
1,2-dichloroethene (total)	10 ug/l	1300 J	1400 J		1200 J
1,1,1-trichloroethane	10 ug/l	8 J			
trichloroethene	10 ug/l	21			
tetrachloroethene	10 ug/l	170			
toluene	10 ug/l	9900	11000	1 J	8400
ethyl benzene	10 ug/l	3800	4900		4200

Table 2 -- C.R.S. Summary of Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' -- 23.5'	17.7' -- 23.5'	18.15' -- 28.1'	18.15' -- 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	NW Well	GW Trip Blank

styrene	10 ug/l	800 J			
xylene (total)	10 ug/l	73000	86000	15	77000
SEMI-VOL. ORGANIC COMPOUNDS	CRQL				
phenol	10 ug/l	27 J		32 J	N/A
2-methylphenol	10 ug/l	270	250	250	N/A
4-methylphenol	10 ug/l	150	150	160	N/A
2,4-dimethylphenol	10 ug/l	510	650	650	N/A
naphthalene	10 ug/l	220	180	180	N/A
2-methylnaphthalene	10 ug/l	12 J		10 J	N/A

Table 2 -- C.R.S. Summary of Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	NW Well	GW Trip Blank

acenaphthylene	10 ug/l		18 J	N/A
fluorene	10 ug/l		13 J	N/A
phenanthrene	10 ug/l		37	N/A
di-n-butylphthalate	10 ug/l	30 J		N/A
fluoranthene	10 ug/l		5 J	N/A
bis(2-ethylhexyl)phthalate	10 ug/l	20 J		N/A
PESTICIDES/PCBs	CRQL			
alpha-BHC	0.05 ug/l	0.0020 JP		N/A
gamma-BHC (Lindane)	0.05 ug/l		/ 0.31 P/ 0.36 P	N/A
heptachlor	0.05 ug/l		/ 0.30 P/ 0.34 P	N/A
aldrin	0.05 ug/l		/ 0.35/ 0.40	N/A
endosulfan I	0.05 ug/l	0.0018 JP		N/A
dieldrin	0.10 ug/l		/ 0.64 P/ 0.74 P	N/A
4,4-DDE	0.10 ug/l		/ 0.024 JP/ 0.034 JP	N/A
PESTICIDES/PCBs	CRQL			
endrin	0.10 ug/l		/ 0.73/ 0.84 P	N/A
endosulfan sulfate	0.10 ug/l		0.055 JP	N/A

Table 2 -- C.R.S. Summary of Ground Water Sample Results

09/29/97

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	NW Well	GW Trip Blank
4,4-DDT	0.10 ug/l		/ 0.54 P/ 0.61 P		N/A
endrin ketone	0.10 ug/l		/ 0.016 JP/ 0.021 JP		N/A
alpha-chlordane	0.50 ug/l		0.013 ZJP/ 0.012 ZJP/ 0.013 ZJP		N/A
gamma-chlordane	0.50 ug/l	0.0035 JP			N/A
roclor-1248	1.0 ug/l	2.3 P			N/A
roclor-1254	1.0 ug/l	5.3	0.70 JP	1.3	N/A
roclor-1260	1.0 ug/l				N/A
TAL METALS/CYANIDE	CRDL				
aluminum	200 ug/l	1130	901	311	2250
antimony	60 ug/l	50.7 B	124		97.2
arsenic	10 ug/l	76.3	466		153
barium	200 ug/l	230	214	47.6 B	244
beryllium	5 ug/l		0.42 B		0.47 B
cadmium	5 ug/l	8.4	77.3	457	21.4
calcium	5000 ug/l	211000	217000	194000	219000
chromium	10 ug/l	91.7	108		137
cobalt	50 ug/l	28.0 B	16.1 B	28.3 B	21.5 B
copper	25 ug/l	7.4 B	63.9	14.6 B	24.4 B
iron	100 ug/l	42700	28100	12100	41200
lead	3 ug/l	4.1	105		27.1
magnesium	5000 ug/l	27300	28200	40100	28600
manganese	15 ug/l	853	1300	8560	1320
mercury	0.2 ug/l	0.15 B	0.19 B		0.23
nickel	40 ug/l	46.1	66.6	104	72.4
potassium	5000 ug/l	10400	11000	10700	10800
selenium	5 ug/l	2.5 B	2.2 B	3.0 B	2.2 B
sodium	5000 ug/l	40200	44600	203000	44700

Table 2 -- C.R.S. Summary of Ground Water Sample Results

09/29/97

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	NW Well	GW Trip Blank
vanadium	50 ug/l	11.6 B	18.8 B	22.7 B	N/A
zinc	20 ug/l	5360	3830	1750	5270
cyanide	10 ug/l	49.2	49.7	2.7 B	105

B = an estimated value; D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; N/A = Not Applicable; P = lower of two GC columns reported;

X = GC could not distinguish peaks; Z = determined to be a false positive; CRDL = Contract Required Detection Limit.and, CRQL = Contract Required Quantification Limit.

Table 3 -- C.R.S. Summary of Surface Water and Sediment Sample Results

		S. WATER	S. WATER	S. WATER	S. WATER	S. WATER	DI WATER		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
VOLATILE ORGANIC COMPOUNDS	CRQL							CRQL				
vinyl chloride	10 ug/l	65						10 ug/kg				
chloroethane	10 ug/l	4 J						10 ug/kg				
methylene chloride	10 ug/l	1 J		1 J				10 ug/kg				
1,1-dichloroethene	10 ug/l	1 J						10 ug/kg				
1,1-dichloroethane	10 ug/l	110						10 ug/kg				
1,2-dichloroethene (total)	10 ug/l	130						10 ug/kg				
chloroform	10 ug/l	2 J						10 ug/kg				
2-butanone	10 ug/l							10 ug/kg	4 J	37		
1,1,1-trichloroethane	10 ug/l	18						10 ug/kg				
trichloroethene	10 ug/l	6 J						10 ug/kg				
benzene	10 ug/l	2 J		19				10 ug/kg	34			
tetrachloroethene	10 ug/l	7 J						10 ug/kg				

Table 3 -- C.R.S. Summary of Surface Water and Sediment Sample Results

toluene	10 ug/l	3 J		10 ug/kg			
ethyl benzene	10 ug/l	71		10 ug/kg	2 J		
xlenes (total)	10 ug/l	1 J	19	10 ug/kg	13 J		
SEMI-VOLATILE ORGANIC COMPO	CRQL			CRQL			
acenaphthylene	10 ug/l	N/A		330 ug/kg	62 J		
acenaphthene	10 ug/l	N/A		330 ug/kg	67 J		
	10 ug/l	N/A		330 ug/kg	100 J	74 J	
	10 ug/l	1 J		330 ug/kg			
	10 ug/l	N/A		330 ug/kg	130 J		
phenanthrene	10 ug/l	N/A		330 ug/kg	1100		
	10 ug/l	N/A		330 ug/kg	230 J		
carbazole	10 ug/l	N/A		330 ug/kg	99 J		
fluoranthene	10 ug/l	N/A		330 ug/kg	1800		
	10 ug/l	N/A		330 ug/kg	2100		
butylbenzylphthalate	10 ug/l	N/A		330 ug/kg	86 J		
	10 ug/l	N/A		330 ug/kg	840		
	10 ug/l	N/A		330 ug/kg	1000		
	10 ug/l	N/A		330 ug/kg	1600 X		
	10 ug/l	N/A		330 ug/kg	1600 X		
	10 ug/l	N/A		330 ug/kg	920		
	10 ug/l	N/A		330 ug/kg	200 J		

Table 3 -- C.R.S. Summary of Surface Water and Sediment Sample Results

	50 ug/l	2.1 B	N/A	10 mg/kg	12.1 B		
	20 ug/l	10.6 B	121 N/A	4 mg/kg	123		

NOTE 1: For VOCs, SVOCs, Pest./PCBs, D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; P = lower of two GC columns reported;

U = below detection limit; X = GC could not distinguish peaks; and, CRQL = Contract Required Quantification Limit.

NOTE 2: For metals, B = an estimated value; CRDL = Contract Required Detection Limit.

NOTE 3: (0.0) = Parentheses indicate that value is below both CRQL and SQL/MDL.

NOTE 4: * = Sample was analyzed more than twice and/or diluted by lab.

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still

VOLATILE ORGANIC COMPOUNDS	CRQL				
chloromethane	10 ug/kg	110 U	69 U	14 U	/500 JD 60 U
bromomethane	10 ug/kg	110 U	69 U	14 U	/680 JD 60 U
vinyl chloride	10 ug/kg	110 U	69 U	14 U	/480 JD 60 U
chloroethane	10 ug/kg	110 U	69 U	14 U	/450 JD 60 U
methylene chloride	10 ug/kg	110 U	69 U	14 U	/170 JD 60 U
acetone	10 ug/kg	66 J	63 J	14 U	50 J/ 800
carbon disulfide	10 ug/kg	110 U	69 U	14 U	1400 U 60 U
1,1-dichloroethene	10 ug/kg	110 U	69 U	14 U	1400 U 60 U
1,1-dichloroethane	10 ug/kg	110 U	69 U	14 U	1400 U 60 U
1,2-dichloroethene (total)	10 ug/kg	1400	69 U	4 J	16 /180 JD 60 U
chloroform	10 ug/kg	110 U	69 U	14 U	1400 U 60 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0 8/14/96, 11:15	EASN/MEAGH 1 8/14/96, 13:30	EASN/MEAGH 2 8/14/96, 16:40	EASN/MEAGH 3 8/14/96, 13:45	EASN/MEAGH 4 8/14/96, 17:05
SAMPLE DEPTH		4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
1,2-dichloroethane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
2-butanone	10 ug/kg	110 U	69 U	14 U	1400 U	170
1,1,1-trichloroethane	10 ug/kg	14 J	45 J	14 U	94 J/220 JD	51 J
carbon tetrachloride	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
bromodichloromethane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
1,2-dichloropropane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
cis-1,3-dichloropropene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
trichloroethene	10 ug/kg	19000 E	130	4 J	540 /220 JD	100
dibromochloromethane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
1,1,2-trichloroethane	10 ug/kg	110 U	10 J	14 U	40 J/	60 U
benzene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
trans-1,3-dichloropropene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
	10 ug/kg	110 U	69 U	14 U	1400 U	27 J

C.R.S. Soil Sample Results

		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" - 5'	4"--8"	3" +/-	4"--8"	5' - 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
2-hexanone	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
tetrachloroethene	10 ug/kg	500	1200	9 J	5500 E/2200 D	290
1,1,2,2-tetrachloroethane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
toluene	10 ug/kg	110 U	69 U	14 U	1400 U	51 J
chlorobenzene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
ethyl benzene	10 ug/kg	110 U	69 U	14 U	1400 U	18 J
styrene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U
xylenes (total)	10 ug/kg	110 U	22 U	14 U	230 JD/	89

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still

SEMI-VOLATILE ORGANIC COMPOU	CRQL				
phenol	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
bis(2-chloroethyl)ether	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
2-chlorophenol	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
1,3-dichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
1,4-dichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
1,2-dichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
2-methylphenol	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
2,2-oxybis(1-chloropropane)	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
4-methylphenol	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
n-nitroso-di-n-dipropylamine	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
hexachloroethane	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0 8/14/96, 11:15	EASN/MEAGH 1 8/14/96, 13:30	EASN/MEAGH 2 8/14/96, 16:40	EASN/MEAGH 3 8/14/96, 13:45	EASN/MEAGH 4 8/14/96, 17:05
SAMPLE DEPTH		4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
nitrobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
isophorone	330 ug/kg	1100 U	460 U	920 U	3300/ 3600	3500/ 3500
2-nitrophenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2,4-dimethylphenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
bis(2-chloroethoxy)methane	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2,4-dichlorophenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
1,2,4-trichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
naphthalene	330 ug/kg	150 J/ 140 J	/ 180 J	300 J/ 290 J	120 J/ 120 J	/ 210 J
4-chloroaniline	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
hexachlorobutadiene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
4-chloro-3-methylphenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2-methylnaphthalene	330 ug/kg	260 J/ 260 J	130 J/ 110 J	120 J/ 140 J	800 U	2000 U
hexachlorocyclopentadiene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
		8/14/96 11:15	8/14/96 13:30	8/14/96 16:40	8/14/96 13:45	8/14/96 17:05
SAMPLE DEPTH		4'6" – 5'	4"–8"	3" +/-	4"–8"	5' – 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
2,4,6-trichlorophenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2,4,5-trichlorophenol	800 ug/kg	2700 U	1200 U	2300 U	2000 U	4900 U
2-chloronaphthalene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2-nitroaniline	800 ug/kg	2700 U	1200 U	2300 U	2000 U	4900 U
dimethylphthalate	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
acenaphthylene	330 ug/kg	120 J/ 120 J	140 J/ 120 J	2300/ 2300	100 J/ 120 J	2000 U
2,6-dinitrotoluene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
3-nitroaniline	800 ug/kg	2700 U	1200 U	2300 U	2000 U	4900 U

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" - 5'	4"-8"	3" +/-	4"-8"	5' - 6'
	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still

SEMI-VOLATILE ORGANIC COMPOU	CRQL				
acenaphthene	330 ug/kg	1100 U	460 U	160 J/ 120 J	800 U 2000 U
2,4-dinitrophenol	800 ug/kg	2700 U	1200 U	2300 U	2000 U 4900 U
4-nitrophenol	800 ug/kg	2700 U	1200 U	2300 U	2000 U 4900 U
dibenzofuran	330 ug/kg	130 J/ 130 J	460 U	920 U	800 U 2000 U
2,4-dinitrotoluene	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
diethylphthalate	330 ug/kg	1100 U	460 U	920 U	800 U 910 J/ 910 J
4-chlorophenyl-phenyl ether	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U
fluorene	330 ug/kg	1100 U	460 U	160 J/ 120 J	800 U 2000 U
4-nitroaniline	800 ug/kg	2700 U	460 U	2300 U	2000 U 4900 U
4,6-dinitro-2-methylphenol	800 ug/kg	2700 U	460 U	2300 U	2000 U 4900 U
n-nitrosodiphenylamine	330 ug/kg	1100 U	460 U	920 U	800 U 2000 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
4-bromophenyl-phenyl ether	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
hexachlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
pentachlorophenol	800 ug/kg	2700 U	460 U	2300 U	2000 U	4900 U
phenanthrene	330 ug/kg	3400/ 3400	110 J/ 99J	1300/ 1200	92 J/ 93 J	2000 U
anthracene	330 ug/kg	470 J/ 510 J	50 J/	750 J/ 650 J	800 U	2000 U
carbazole	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
di-n-butylphthalate	330 ug/kg	110 J/	110 J/ 100 J	110 J/ 94 J	90 J/ 98 J	1900 J/ 1800 J
fluoranthene	330 ug/kg	6800/ 6900	160 J/ 150 J	4000/ 4000	110 J/ 120 J	2000 U
pyrene	330 ug/kg	4600/ 4700	220 J/ 200 J	6900/ 9400 E	260 J/ 270 J	2000 U
butylbenzylphthalate	330 ug/kg	1100 U	340 J/ 310 J	420 J/ 490 J	360 J/ 390 J	8000/ 8800
3,3-dichlorobenzidine	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
benzo(a)anthracene	330 ug/kg	2300/ 2300	170 J/ 150 J	2200/ 2700	160 J/ 180 J	2000 U
chrysene	330 ug/kg	3700/ 3800	260 J/ 280 J	3400/ 3100	240 J/ 230 J	2000 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
bis(2-ethylhexyl)phthalate	330 ug/kg	720 J/	1100/ 1300	940/ 1100	1400/ 1400	3900/ 4400
di-n-octylphthalate	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
benzo(b)fluoranthene	330 ug/kg	3800/ 4400	430 J/ 360 J	3800/ 4400	380 J/ 330 J	2000 U
benzo(k)fluoranthene	330 ug/kg	1900/ 2100	270 J/ 240 J	2500/ 1600	170 J/ 220 J	2000 U
benzo(a)pyrene	330 ug/kg	2400/ 2500	250 J/ 220 J	5900/ 5900	180 J/ 190 J	2000 U
indeno(1,2,3-cd)pyrene	330 ug/kg	700 J/ 600 J	130 J/ 110 J	1900/ 1600	160 J/ 130 J	2000 U
dibenzo(a,h)anthracene	330 ug/kg	1100 U	69 J/	740 J/ 630 J	800 U	2000 U
benzo(g,h,i)perylene	330 ug/kg	660 J/ 550 J	140 J/ 140 J	3000/ 2400	230 J/	2000 U

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still

PESTICIDES/PCBs	CRQL					
alpha-BHC	1.7 ug/kg	9.3 U	2.4 U	12 U	2.0 U	3.4 P
beta-BHC	1.7 ug/kg	2.3 JP	6.9 P	12 U	8.4 P	2.7 ZP
delta-BHC	1.7 ug/kg	9.3 U	2.4 U	12 U	2.0 U	2.0 U
gamma-BHC (Lindane)	1.7 ug/kg	1.1 JP	7.5 P	12 U	7.5 P	2.0 U
heptachlor	1.7 ug/kg	0.16 ZJP	2.4 U	12 U	2.0 U	2.0 U
aldrin	1.7 ug/kg	3.8 JP	2.4 U	0.037 ZJP	2.0 U	2.0 U
heptachlor epoxide	1.7 ug/kg	1.8 ZJP	3.6 P	8.8 JP	3.7 P	2.0 U
endosulfan I	1.7 ug/kg	9.3 U	2.4 U	12 U	2.0 U	1.8 JP
dieldrin	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U	3.9 U
4,4-DDE	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U	6.3
endrin	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U	3.9 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" - 5'	4"-8"	3" +/-	4"-8"	5' - 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
endosulfan II	3.3 ug/kg	18 U	4.7 P	11 JP	5.1 P	1.7 J
4,4-DDD	3.3 ug/kg	18 U	0.36 JP	23 U	0.63 ZJP	2.1 J
endosulfan sulfate	3.3 ug/kg	18 U	0.80 ZJP	23 U	1.9 ZJP	3.9 U
	3.3 ug/kg	16 J	1.4 JP	21 JP	2.0 J	4.0 P
methoxychlor	17.0 ug/kg	93 U	24 U	120 U	20 U	15 JP
endrin ketone	3.3 ug/kg	18 U	4.6 U	13 JP	4.0 U	3.9 U
endrin aldehyde	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U	3.9 U
alpha-chlordane	1.7 ug/kg	4.4 ZJP	5.5 P	16 P	3.9 P	2.0 U
gamma-chlordane	1.7 ug/kg	9.3 U	2.4 U	8.3 J	0.14 ZJP	0.20 JP
toxaphene	170 ug/kg	930 U	240 U	1200 U	200 U	200 U
aroclor-1016	33 ug/kg	180 U	46 U	230 U	40 U	39 U
aroclor-1221	67 ug/kg	370 U	46 U	460 U	81 U	79 U
aroclor-1232	33 ug/kg	180 U	46 U	230 U	40 U	1100
aroclor-1242	33 ug/kg	180 U	46 U	230 U	40 U	39 U

C.R.S. Soil Sample Results

		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
		8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH		4'6" – 5'	4"–8"	3" +/-	4"–8"	5' – 6'
		SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
aroclor-1248	33 ug/kg	180 U	46 U	230 U	40 U	39 U
aroclor-1254	33 ug/kg	180 U	46 U	230 U	40 U	39 U
aroclor-1260	33 ug/kg	180 U	46 U	230 U	40 U	39 U

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still

	CRDL					
	40 mg/kg	5210	4140	7170	5510	11400
	12 mg/kg	6.4 B	14.7 B	12.1 B	21.4	109
	2 mg/kg	10.9	7.2	9.8	8.9	71.7
	40 mg/kg	94.4	64.1	221	73.9	1100
	1 mg/kg	0.77 B	0.68 B	0.60 B	0.77 B	0.97 B
	1 mg/kg	1.5	6.1	18.8	8.9	70.3
	1000 mg/kg	31600	82200	28000	78900	26600
	2 mg/kg	9.3	598	30.3	755	173
	10 mg/kg	4.5 B	5.0 B	10.9 B	6.9 B	238
	5 mg/kg	32	249	98.6	310	296
	20 mg/kg	15700	11100	17000	27500	25300
	0.6 mg/kg	60	56.3	383	75	1180
	1000 mg/kg	4240	8480	3050	8930	4210
	3 mg/kg	335	381	1140	413	524
	0.1 mg/kg	0.13	0.07 U	0.06 U	0.14	0.27
	8 mg/kg	12.6	9.9 B	27.3	15.6	77.8
	1000 mg/kg	574 B	296 B	679 B	411 B	1440
	1 mg/kg	1.1 U	0.59 B	1.2 U	1.1 U	1.2 U
	2 mg/kg	0.92 U	1.2 U	1.0 U	0.93 U	1.0 U
	1000 mg/kg	182 B	134 B	228 B	134 B	285 B
	2 mg/kg	0.53 B	0.56 U	0.81 B	0.44 U	0.67 B
	10 mg/kg	13.3	6.3 B	12.3 B	6.5 B	139
	4 mg/kg	195	103	1460	146	700
	2 mg/kg	0.77	0.85	31.6	0.6	24.8

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" -- 5'	4"--8"	3" +/-	4"--8"	5' -- 6'
	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

VOLATILE ORGANIC COMPOUNDS	CRQL					
chloromethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
bromomethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
vinyl chloride	10 ug/l	2000 U	2000 U	2 J	2500 U	10 U
chloroethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
methylene chloride	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
acetone	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
carbon disulfide	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
1,1-dichloroethene	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

1,1-dichloroethane	10 ug/l	450 J	420 J	2 J	350 J	10 U
cis-1,2-dichloroethene	10 ug/l	N/A	N/A	N/A	N/A	N/A
1,2-dichloroethene (total)	10 ug/l	1300 J	1400 J	10 U	1200 J	10 U
trans-1,2-dichloroethene	10 ug/l	N/A	N/A	N/A	N/A	N/A
chloroform	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
1,2-dichloroethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
	10 ug/l	N/A	N/A	N/A	N/A	N/A
1,1,1-trichloroethane	10 ug/l	2000 U	2000 U	8 J	2500 U	10 U
carbon tetrachloride	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
bromodichloromethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL—WELL BOTTOM	17.7' – 23.5'	17.7' – 23.5'	18.15' – 28.1'	18.15' – 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

1,2-dichloropropane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
cis-1,3-dichloropropene	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
trichloroethene	10 ug/l	2000 U	2000 U	21	2500 U	10 U
dibromochloromethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
1,1,2-trichloroethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
benzene	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
trans-1,3-dichloropropene	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
bromoform	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
4-methyl-2-pentanone	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

2-hexanone	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
tetrachloroethene	10 ug/l	2000 U	2000 U	170	2500 U	10 U
1,1,2,2-tetrachloroethane	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
1,2-dibromoethane	10 ug/l	N/A	N/A	N/A	N/A	N/A
VOLATILE ORGANIC COMPOUNDS	CRQL					
toluene	10 ug/l	9900	11000	1 J	8400	10 U
chlorobenzene	10 ug/l	2000 U	2000 U	10 U	2500 U	10 U
ethyl benzene	10 ug/l	3800	4900	10 U	4200	10 U
styrene	10 ug/l	2000 U	800 J	10 U	2500 U	10 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL—WELL BOTTOM	17.7' – 23.5'	17.7' – 23.5'	18.15' – 28.1'	18.15' – 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

xylene (total)	10 ug/l	73000	86000	15	77000	10 U
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SEMI-VOL. ORGANIC COMPOUNDS	CRQL					
1,2-dibromo-3-chloropropane	10 ug/l	N/A	N/A	N/A	N/A	N/A
phenol	10 ug/l	100 U	27 J	30 U	32 J	N/A
bis(2-chloroethyl)ether	10 ug/l	100 U	100 U	30 U	100 U	N/A
2-chlorophenol	10 ug/l	100 U	100 U	30 U	100 U	N/A
1,3-dichlorobenzene	10 ug/l	100 U	100 U	30 U	100 U	N/A
1,4-dichlorobenzene	10 ug/l	100 U	100 U	30 U	100 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL—WELL BOTTOM	17.7' – 23.5'	17.7' – 23.5'	18.15' – 28.1'	18.15' – 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

1,2-dichlorobenzene	10 ug/l	100 U	100 U	30 U	100 U	N/A
2-methylphenol	10 ug/l	270	250	30 U	250	N/A
2,2-oxybis(1-chloropropane)	10 ug/l	100 U	100 U	30 U	100 U	N/A
4-methylphenol	10 ug/l	150	150	30 U	160	N/A
n-nitrosodi-n-propylamine	10 ug/l	100 U	100 U	30 U	100 U	N/A
hexachloroethane	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A
isophorone	10 ug/l	100 U	100 U	30 U	100 U	N/A
2-nitrophenol	10 ug/l	100 U	100 U	30 U	100 U	N/A
2,4-dimethylphenol	10 ug/l	510	650	30 U	650	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL—WELL BOTTOM	17.7' — 23.5'	17.7' — 23.5'	18.15' — 28.1'	18.15' — 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

bis(2-chloroethoxy)methane	10 ug/l	100 U	100 U	30 U	100 U	N/A
2,4-dichlorophenol	10 ug/l	100 U	100 U	30 U	100 U	N/A
1,2,4-trichlorobenzene	10 ug/l	100 U	100 U	30 U	100 U	N/A
naphthalene	10 ug/l	220	180	180	180	N/A
4-chloroaniline	10 ug/l	100 U	100 U	30 U	100 U	N/A
hexachlorobutadiene	10 ug/l	100 U	100 U	30 U	100 U	N/A
4-chloro-3-methylphenol	10 ug/l	100 U	100 U	30 U	100 U	N/A
2-methylnaphthalene	10 ug/l	12 J	100 U	10 J	100 U	N/A
hexachlorocyclopentadiene	10 ug/l	100 U	100 U	30 U	100 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

SEMI-VOL. ORGANIC COMPOUNDS	CRQL					
2,4,6-trichlorophenol	10 ug/l	100 U	100 U	30 U	100 U	N/A
2,4,5-trichlorophenol	25 ug/l	250 U	250 U	75 U	250 U	N/A
2-chloronaphthalene	10 ug/l	100 U	100 U	30 U	100 U	N/A
2-nitroaniline	25 ug/l	250 U	250 U	75 U	250 U	N/A
dimethylphthalate	10 ug/l	100 U	100 U	30 U	100 U	N/A
acenaphthylene	10 ug/l	100 U	100 U	18 J	100 U	N/A
2,6-dinitrotoluene	10 ug/l	100 U	100 U	30 U	100 U	N/A
3-nitroaniline	25 ug/l	250 U	250 U	75 U	250 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

acenaphthene	10 ug/l	100 U	100 U	30 U	100 U	N/A
	25 ug/l	250 U	250 U	75 U	250 U	N/A
4-nitrophenol	25 ug/l	250 U	250 U	75 U	250 U	N/A
dibenzofuran	10 ug/l	100 U	100 U	30 U	100 U	N/A
2,4-dinitrotoluene	10 ug/l	100 U	100 U	30 U	100 U	N/A
diethylphthalate	10 ug/l	100 U	100 U	30 U	100 U	N/A
4-chlorophenyl-phenyl ether	10 ug/l	100 U	100 U	30 U	100 U	N/A
fluorene	10 ug/l	100 U	100 U	13 J	100 U	N/A
4-nitroaniline	25 ug/l	250 U	250 U	75 U	250 U	N/A
4,6-dinitro-2-methylphenol	25 ug/l	250 U	250 U	75 U	250 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL—WELL BOTTOM	17.7' – 23.5'	17.7' – 23.5'	18.15' – 28.1'	18.15' – 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

n-nitrosodiphenylamine	10 ug/l	100 U	100 U	30 U	100 U	N/A
4-bromophenyl phenyl ether	10 ug/l	100 U	100 U	30 U	100 U	N/A
hexachlorobenzene	10 ug/l	100 U	100 U	30 U	100 U	N/A
pentachlorophenol	25 ug/l	250 U	250 U	75 U	250 U	N/A
phenanthrene	10 ug/l	100 U	100 U	37	100 U	N/A
anthracene	10 ug/l	100 U	100 U	30 U	100 U	N/A
carbazole	10 ug/l	100 U	100 U	30 U	100 U	N/A
di-n-butylphthalate	10 ug/l	30 J	100 U	30 U	100 U	N/A
fluoranthene	10 ug/l	100 U	100 U	5 J	100 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL—WELL BOTTOM	17.7' – 23.5'	17.7' – 23.5'	18.15' – 28.1'	18.15' – 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

pyrene	10 ug/l	100 U	100 U	30 U	100 U	N/A
butylbenzylphthalate	10 ug/l	100 U	100 U	30 U	100 U	N/A
3,3-dichlorobenzidine	10 ug/l	100 U	100 U	30 U	100 U	N/A
benzo(a)anthracene	10 ug/l	100 U	100 U	30 U	100 U	N/A
chrysene	10 ug/l	100 U	100 U	30 U	100 U	N/A
bis(2-ethylhexyl)phthalate	10 ug/l	20 J	100 U	30 U	100 U	N/A
di-n-octylphthalate	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A
	10 ug/l	100 U	100 U	30 U	100 U	N/A

CRQL	
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C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

	0.05 ug/l	0.050 U	0.0020 JP	0.050 U/ 0.050 U/ 0.050 U	0.050 U	N/A
	0.05 ug/l	0.050 U	0.050 U	0.050 U/ 0.050 U/ 0.050 U	0.050 U	N/A
	0.05 ug/l	0.050 U	0.050 U	0.050 U/ 0.050 U/ 0.050 U	0.050 U	N/A
	0.05 ug/l	0.050 U	0.050 U	/ 0.31 P/ 0.36 P	0.050 U	N/A
	0.05 ug/l	0.050 U	0.050 U	/ 0.30 P/ 0.34 P	0.050 U	N/A
	0.05 ug/l	0.050 U	0.050 U	/ 0.35/ 0.40	0.050 U	N/A
	0.05 ug/l	0.050 U	0.050 U	0.050 U/ 0.050 U/ 0.050 U	0.050 U	N/A
	0.05 ug/l	0.050 U	0.0018 JP	0.050 U/ 0.050 U/ 0.050 U	0.050 U	N/A
	0.10 ug/l	0.10 U	0.10 U	/ 0.64 P/ 0.74 P	0.10 U	N/A
	0.10 ug/l	0.10 U	0.10 U	/ 0.024 JP/ 0.034 JP	0.10 U	N/A
	0.10 ug/l	0.10 U	0.10 U	/ 0.73/ 0.84 P	0.10 U	N/A
	0.10 ug/l	0.10 U	0.10 U	0.10 U/ 0.10 U/ 0.10 U	0.10 U	N/A
	0.10 ug/l	0.10 U	0.10 U	0.10 U/ 0.10 U/ 0.10 U	0.10 U	N/A
	0.10 ug/l	0.10 U	0.10 U	0.10 U/ 0.10 U/ 0.10 U	0.055 JP	N/A
	0.10 ug/l	0.10 U	0.10 U	/ 0.54 P/ 0.61 P	0.10 U	N/A
	0.50 ug/l	0.50 U	0.50 U	0.050 U/ 0.050 U/ 0.050 U	0.50 U	N/A
	0.10 ug/l	0.10 U	0.10 U	/ 0.016 JP/ 0.021 JP	0.10 U	N/A
	0.10 ug/l	0.10 U	0.10 U	0.10 U/ 0.10 U/ 0.10 U	0.10 U	N/A
	0.50 ug/l	0.050 U	0.050 U	0.013 ZJP/ 0.012 ZJP/ 0.013 ZJP	0.050 U	N/A
	0.50 ug/l	0.050 U	0.0035 JP	0.050 U/ 0.050 U/ 0.050 U	0.050 U	N/A
	5.0 ug/l	5.0 U	5.0 U	5.0 U/ 5.0 U/ 5.0 U	5.0 U	N/A
	1.0 ug/l	1.0 U	1.0 U	1.0 U/ 1.0 U/ 1.0 U	1.0 U	N/A
	1.0 ug/l	2.0 U	2.0 U	2.0 U/ 2.0 U/ 2.0 U	2.0 U	N/A
	2.0 ug/l	1.0 U	1.0 U	1.0 U/ 1.0 U/ 1.0 U	1.0 U	N/A
	1.0 ug/l	1.0 U	1.0 U	1.0 U/ 1.0 U/ 1.0 U	1.0 U	N/A
	1.0 ug/l	2.3 P	1.0 U	1.0 U/ 1.0 U/ 1.0 U	1.0 U	N/A
	1.0 ug/l	5.3	0.70 JP	1.0 U/ 1.0 U/ 1.0 U	1.3	N/A
	1.0 ug/l	1.0 U	1.0 U	1.0 U/ 1.0 U/ 1.0 U	1.0 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL-WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

TAL METALS/CYANIDE	CRDL					
	200 ug/l	1130	901	311	2250	N/A
	60 ug/l	50.7 B	124	27.5 U	97.2	N/A
	10 ug/l	76.3	466	3.4 U	153	N/A
	200 ug/l	230	214	47.6 B	244	N/A
	5 ug/l	0.40 U	0.42 B	0.40 U	0.47 B	N/A
	5 ug/l	8.4	77.3	457	21.4	N/A
	5000 ug/l	211000	217000	194000	219000	N/A
	10 ug/l	91.7	108	3.0 U	137	N/A
	50 ug/l	28.0 B	16.1 B	28.3 B	21.5 B	N/A
	25 ug/l	7.4 B	63.9	14.6 B	24.4 B	N/A
	100 ug/l	42700	28100	12100	41200	N/A
	3 ug/l	4.1	105	11.0 U	27.1	N/A
	5000 ug/l	27300	28200	40100	28600	N/A
	15 ug/l	853	1300	8560	1320	N/A
	0.2 ug/l	0.15 B	0.19 B	0.10 U	0.23	N/A
	40 ug/l	46.1	66.6	104	72.4	N/A
	5000 ug/l	10400	11000	10700	10800	N/A
	5 ug/l	2.5 B	2.2 B	3.0 B	2.2 B	N/A
	10 ug/l	4.2 U	4.2 U	4.2 U	4.2 U	N/A
	5000 ug/l	40200	44600	203000	44700	N/A
	10 ug/l	2.0 U	2.0 U	2.0 U	2.0 U	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL - WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A

50 ug/l	11.6 B	18.8 B	3.8 U	22.7 B	N/A
20 ug/l	5360	3830	1750	5270	N/A
10 ug/l	49.2	49.7	2.7 B	105	N/A

NOTE 1: For VOCs, SVOCs, Pest./PCBs, D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; N/A = Not Applied; P = lower of two GC columns reported; X = GC could not distinguish peaks; Z = determined to be a false positive; and, CRQL = Contract Required Detection Limit.

NOTE 2: For metals, B = an estimated value; CRDL = Contract Required Detection Limit.

NOTE 3: (0.0) = Parentheses indicate that value is below both CRQL and SQL/MDL.

NOTE 4: * = Sample was analyzed more than twice and/or diluted by lab.

C.R.S. Surface Water and Sediment Sample Results

		S. WATER	S. WATER	S. WATER	S. WATER	S. WATER	DI WATER		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
VOLATILE ORGANIC COMPOUNDS	CRQL							CRQL				
chloromethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
bromomethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
vinyl chloride	10 ug/l	10 U	10 U	10 U	10 U	65	10 U	10 ug/kg	16 U	16 U	18 U	25 U
chloroethane	10 ug/l	10 U	10 U	10 U	10 U	4 J	10 U	10 ug/kg	16 U	16 U	18 U	25 U
methylene chloride	10 ug/l	10 U	1 J	10 U	10 U	1 J	10 U	10 ug/kg	27 BU	18 BU	18JBU	25 JBU
	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	48 BU	53 BU	38 BU	170 BU
carbon disulfide	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
1,1-dichloroethene	10 ug/l	10 U	10 U	10 U	10 U	1 J	10 U	10 ug/kg	16 U	16 U	18 U	25 U
1,1-dichloroethane	10 ug/l	10 U	10 U	10 U	10 U	110	10 U	10 ug/kg	16 U	16 U	18 U	25 U
1,2-dichloroethene (total)	10 ug/l	10 U	10 U	10 U	10 U	130	10 U	10 ug/kg	16 U	16 U	18 U	25 U
chloroform	10 ug/l	10 U	10 U	10 U	10 U	2 J	10 U	10 ug/kg	16 U	16 U	18 U	25 U
1,2-dichloroethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U

C.R.S. Surface Water and Sediment Sample Results

2-butanone	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	4 J	16 U	18 U	37
1,1,1-trichloroethane	10 ug/l	10 U	10 U	10 U	10 U	18	10 U	10 ug/kg	16 U	16 U	18 U	25 U
carbon tetrachloride	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
bromodichloromethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
1,2-dichloropropane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
cis-1,3-dichloropropene	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
trichloroethene	10 ug/l	10 U	10 U	10 U	10 U	6 J	10 U	10 ug/kg	16 U	16 U	18 U	25 U
dibromochloromethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
1,1,2-trichloroethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
benzene	10 ug/l	2 J	10 U	10 U	10 U	19	10 U	10 ug/kg	16 U	16 U	18 U	34
trans-1,3-dichloropropene	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
2-hexanone	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
tetrachloroethene	10 ug/l	10 U	10 U	10 U	10 U	7 J	10 U	10 ug/kg	16 U	16 U	18 U	25 U

C.R.S. Surface Water and Sediment Sample Results

1,1,2,2-tetrachloroethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
toluene	10 ug/l	10 U	10 U	10 U	10 U	3 J	10 U	10 ug/kg	16 U	16 U	18 U	25 U
chlorobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
ethyl benzene	10 ug/l	10 U	10 U	10 U	10 U	71	10 U	10 ug/kg	16 U	2 J	18 U	25 U
styrene	10 ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 ug/kg	16 U	16 U	18 U	25 U
xylenes (total)	10 ug/l	1 J	10 U	10 U	10 U	19	10 U	10 ug/kg	16 U	13 J	18 U	25 U

C.R.S. Surface Water and Sediment Sample Results

		S. WATER	S. WATER	S. WATER	S. WATER	S. WATER	DI WATER		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
SEMI-VOLATILE ORGANIC COMPO	CRQL							CRQL				
phenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
bis(2-chloroethyl)ether	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2-chlorophenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
1,3-dichlorobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
1,4-dichlorobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
1,2-dichlorobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2-methylphenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2,2-oxybis(1-chloropropane)	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
4-methylphenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
n-nitroso-di-n-dipropylamine	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
hexachloroethane	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
nitrobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U

C.R.S. Surface Water and Sediment Sample Results

isophorone	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2-nitrophenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2,4-dimethylphenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
bis(2-chloroethoxy)methane	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2,4-dichlorophenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
1,2,4-trichlorobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
naphthalene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
4-chloroaniline	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
hexachlorobutadiene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
4-chloro-3-methylphenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2-methylnaphthalene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
hexachlorocyclopentadiene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2,4,6-trichlorophenol	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2,4,5-trichlorophenol	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U

C.R.S. Surface Water and Sediment Sample Results

2-chloronaphthalene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
2-nitroaniline	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
dimethylphthalate	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
acenaphthylene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	62 J	820 U
2,6-dinitrotoluene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
3-nitroaniline	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
acenaphthene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	140 J	78 J	67 J	820 U

C.R.S. Surface Water and Sediment Sample Results

		S. WATER	S. WATER	S. WATER	S. WATER	S. WATER	DI WATER		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
SEMI-VOLATILE ORGANIC COMPO	CRQL							CRQL				
2,4-dinitrophenol	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
4-nitrophenol	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	100 J	74 J	580 U	820 U
2,4-dinitrotoluene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
	10 ug/l	10 U	10 U	10 U	10 U	1 J	N/A	330 ug/kg	510 U	540 U	580 U	820 U
4-chlorophenyl-phenyl ether	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	240 J	140 J	130 J	83 J
4-nitroaniline	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
n-nitrosodiphenylamine	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
hexachlorobenzene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
	25 ug/l	25 U	25 U	25 U	25 U	25 U	N/A	800 ug/kg	1300 U	1400 U	1400 U	2100 U
phenanthrene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	1900	1600	1100	840
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	480 J	260 J	230 J	140 J
carbazole	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	220 J	240 J	99 J	100 J
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U

C.R.S. Surface Water and Sediment Sample Results

fluoranthene	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	2300	2300	1800	1800
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	2900	2500	2100	1700
butylbenzylphthalate	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	33 J	540 U	86 J	820 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	1200	970	840	650 J
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	1300	1200	1000	1000
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 JBU	540 JBU	580 JBU	820 JBU
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	510 U	540 U	580 U	820 U
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	2000 X	1800 X	1600 X	1500 X
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	1900 X	1700 X	1600 X	1400 X
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	1100	1000	920	830
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	200 J	280 J	200 J	410 J
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	45 J	60 J	45 J	96 J
	10 ug/l	10 U	10 U	10 U	10 U	10 U	N/A	330 ug/kg	120 J	180 J	140 J	370 J

C.R.S. Surface Water and Sediment Sample Results

C.R.S. Surface Water and Sediment Sample Results

methoxychlor	0.50 ug/l	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	N/A	17.0 ug/kg	52 JBU	54 JPBU	58 JPBU	82 JPBU
endrin ketone	0.10 ug/l	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	N/A	3.3 ug/kg	0.26 JP	5.4 U	5.8 U	8.2 U
endrin aldehyde	0.10 ug/l	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	N/A	3.3 ug/kg	1.6 JP	1.3 JP	0.73 JP	8.2 U
alpha-chlordane	0.05 ug/l	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	N/A	1.7 ug/kg	2.6 U	0.72 JP	0.88 JP	2.4 JP
gamma-chlordane	0.05 ug/l	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	N/A	1.7 ug/kg	3	1.4 JP	1.1 JP	0.67 JP
toxaphene	5.0 ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	N/A	170 ug/kg	260 U	280 U	300 U	420 U
aroclor-1016	1.0 ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A	33 ug/kg	52 U	54 U	58 U	82 U
aroclor-1221	1.0 ug/l	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	N/A	67 ug/kg	100 U	110 U	120 U	170 U
aroclor-1232	2.0 ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A	33 ug/kg	52 U	54 U	58 U	82 U
aroclor-1242	1.0 ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A	33 ug/kg	52 U	54 U	58 U	82 U
aroclor-1248	1.0 ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A	33 ug/kg	52 U	54 U	58 U	82 U
aroclor-1254	1.0 ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A	33 ug/kg	100	54 U	58 U	82 U
aroclor-1260	1.0 ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	N/A	33 ug/kg	52 U	16 JP	13 JP	82 U

C.R.S. Surface Water and Sediment Sample Results

		S. WATER	S. WATER	S. WATER	S. WATER	S. WATER	DI WATER		SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
TAL METALS/CYANIDE	CRDL							CRDL				
aluminum	200 ug/l	209	139 B	232	141 B	492	N/A	40 mg/kg	4130	2570	5550	14100
antimony	60 ug/l	15.7 U	15.7 U	15.7 U	15.7 U	107	N/A	12 mg/kg	6.7 U	11.0 B	6.5 U	8.5 U
arsenic	10 ug/l	4.0 B	3.8 B	3.8 B	4.0 B	8.2 B	N/A	2 mg/kg	5	3.7	6.1	10.9
barium	200 ug/l	43.5 B	51.9 B	46.3 B	51.8 B	159 B	N/A	40 mg/kg	61.7 B	29.9 B	129	146
beryllium	5 ug/l	0.40 U	0.40 U	0.40 U	0.40 U	0.43 B	N/A	1 mg/kg	0.40 B	0.19 B	0.37 B	0.64 B
cadmium	5 ug/l	2.4 U	2.4 U	2.4 U	2.4 U	26.2	N/A	1 mg/kg	2.1	2.1	2.9	4.2
calcium	5000 ug/l	70200	72600	73700	72500	176000	N/A	1000 mg/kg	5920	4960	8600	12300
chromium	10 ug/l	2.1 U	2.1 U	2.1 U	3.1 B	48.6	N/A	2 mg/kg	12.8	10.8	29.7	34.8
cobalt	50 ug/l	3.6 U	3.6 U	3.6 U	3.6 U	9.0 B	N/A	10 mg/kg	8.1 B	7.7 B	10.4 B	18.0 B
copper	25 ug/l	9.4 B	10.5 B	11.0 B	8.7 B	709	N/A	5 mg/kg	48.4	53.7	70.1	99.5
iron	100 ug/l	343	234	481	239	2490	N/A	20 mg/kg	10000	7830	12300	24200
lead	3 ug/l	1.3 B	0.90 U	1.6 B	0.90 U	10.4	N/A	0.6 mg/kg	30.9	29.1	46.2	53.1

C.R.S. Surface Water and Sediment Sample Results

magnesium	5000 ug/l	21700	22400	22600	22300	29200	N/A	1000 mg/kg	2010 B	1580 B	2840	5280
manganese	15 ug/l	94.5	55.3	140	56.1	464	N/A	3 mg/kg	133	131	220	487
mercury	0.2 ug/l	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	N/A	0.1 mg/kg	0.07 U	0.05 U	0.08 U	0.43
nickel	40 ug/l	9.2 B	9.2 B	14.7 B	9.0 U	111	N/A	8 mg/kg	30.9	19	38.2	51.4
potassium	5000 ug/l	5670	6030	6110	6050	10300	N/A	1000 mg/kg	822 B	488 B	976 B	2340 B
selenium	5 ug/l	0.60 U	0.60 U	0.60 U	0.60 U	15.8	N/A	1 mg/kg	0.51 B	0.21 U	0.62 B	0.92 B
silver	10 ug/l	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	N/A	2 mg/kg	0.89 U	0.72 U	0.86 U	1.1 U
sodium	5000 ug/l	50100	51100	50900	50400	445000	N/A	1000 mg/kg	123 B	69.7 B	124 B	261 B
thallium	10 ug/l	2.4 B	1.5 B	2.3 B	2.9 B	3.1 B	N/A	2 mg/kg	0.85 B	0.34 B	0.16 U	0.38 B
vanadium	50 ug/l	2.1 B	1.8 B	2.1 B	1.5 B	2.5 B	N/A	10 mg/kg	9.9 B	6.4 B	12.1 B	29.1
zinc	20 ug/l	8.5 B	8.5 B	10.6 B	6.9 B	121	N/A	4 mg/kg	76.6	49.3	123	198
cyanide	10 ug/l	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	N/A	2 mg/kg	0.11 U	0.09 U	0.10 U	0.13 U

NOTE 1: For VOCs, SVOCs, Pest./PCBs, D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; P = lower of two GC columns reported;

U = below detection limit; X = GC could not distinguish peaks; and, CRQL = Contract Required Quantification Limit.

C.R.S. Surface Water and Sediment Sample Results

NOTE 2: For metals, B = an estimated value; CRDL = Contract Required Detection Limit.

NOTE 3: (0.0) = Parentheses indicate that value is below both CRQL and SQL/MDL.

NOTE 4: * = Sample was analyzed more than twice and/or diluted by lab.

C.R.S. Surface Water and Sediment Sample Results

09/11/97

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NATURAL HERITAGE DATABASE REPORT WITHIN 15 MILES OF CHEMICAL RECOVERY SYSTEMS

ID #	FEDERAL CODE	STATE CODE	CLASS CODE	LOCATION CODE	DISTANCE (MILES)	SCIENTIFIC NAME	COMMON NAME
1		T	SP	C	11.037	005CAREX ALBOLUTESCENS	PALE STRAW SEDGE
2		P	SP	C	11.037	027VITIS LABRUSCA	NORTHERN FOX GRAPE
3		T	SP	C	10.925	013CAREX ALBICANS VAR. EMMONSII	EMMONS' SEDGE
4		T	SA	N	9.607	002ICHTHYOMYZON UNICUSPIS	SILVER LAMPREY
5		T	SA	N	9.607	030OBLIQUARIA REFLEXA	THREEHORN WARTYBACK
6		E	SA	N	9.607	027LIGUMIA NASUTA	EASTERN POND MUSSEL
7		E	SA	N	9.607	002ACIPENSER FULVESCENS	LAKE STURGEON
8		P	SP	C	10.875	036VACCINIUM MACROCARPON	LARGE CRANBERRY
9		P	SP	C	10.875	005VIOLA LANCEOLATA	LANCE-LEAVED VIOLET
10		P	SP	C	10.896	019VACCINIUM MACROCARPON	LARGE CRANBERRY
11		P	SP	C	10.808	009VIOLA LANCEOLATA	LANCE-LEAVED VIOLET
12		S	SA	C	6.834	005CLEMMYS GUTTATA	SPOTTED TURTLE
13		T	SA	N	7.655	011ICHTHYOMYZON UNICUSPIS	SILVER LAMPREY
15		P	SP	C	7.520	033VACCINIUM MACROCARPON	LARGE CRANBERRY
16		T	SP	C	4.833	002ALISMA TRIVIALE	NORTHERN WATER-PLANTAIN
17		P	SP	C	4.719	015CAREX RADIATA	RADIATE SEDGE
18		P	SP	C	4.665	032THUJA OCCIDENTALIS	ARBOR VITAE
19		P	SP	N	8.878	030TRIPLASIS PURPUREA	PURPLE SAND-GRASS
20		P	SP	N	8.878	014EUPHORBIA POLYGONIFOLIA	SEASIDE SPURGE
21		E	SA	N	8.878	026LIGUMIA NASUTA	EASTERN POND MUSSEL
22		T	SA	C	8.970	024LIGUMIA RECTA	BLACK SANDSHELL
23		P	SP	C	8.922	001CAKILE EDENTULA	INLAND SEA-ROCKET
24		S	SA	C	8.441	027EMYDOIDEA BLANDINGII	BLANDING'S TURTLE
25		T	SP	C	8.903	029MYRIOPHYLLUM SIBIRICUM	AMERICAN WATER-MILFOIL
26		P	SP	C	3.948	016FRAXINUS TOMENTOSA	PUMPKIN ASH
27		T	SA	N	14.183	023LIGUMIA RECTA	BLACK SANDSHELL
28		S	SA	N	14.183	029CYCLONAIAS TUBERCULATA	PURPLE WARTYBACK
29		T	SA	N	14.183	018TRUNCILLA DONACIFORMIS	FAWNSFOOT
30		S	SA	N	14.183	012TRUNCILLA TRUNCATA	DEERTOE
31		P	SP	C	14.107	026TRIPLASIS PURPUREA	PURPLE SAND-GRASS

32	P	SP	C	14.107	050	CAKILE EDENTULA	INLAND SEA-ROCKET
33	T	SP	C	3.685	003	ALISMA TRIVIALE	NORTHERN WATER-PLANTAIN
34	P	SP	C	3.199	059	JUGLANS CINEREA	BUTTERNUT
36	T	SP	N	8.612	003	CAREX PROJECTA	NECKLACE SEDGE
37	E	SP	N	8.215	002	CAREX LOUISIANICA	LOUISIANA SEDGE
38	P	SP	G	8.100	006	CORNUS RUGOSA	ROUND-LEAVED DOGWOOD
39	P	SP	C	2.740	023	CORNUS RUGOSA	ROUND-LEAVED DOGWOOD
40	P	SP	C	2.740	034	SHEPHERDIA CANADENSIS	CANADIAN BUFFALO-BERRY
42	P	SP	N	7.646	010	CAREX DEBILIS VAR. DEBILIS	WEAK SEDGE
43	E	SA	C	11.726	002	THRYOMANES BEWICKII	BEWICK'S WREN
45	P	SP	C	11.515	028	SHEPHERDIA CANADENSIS	CANADIAN BUFFALO-BERRY
46	P	SP	C	5.379	065	JUGLANS CINEREA	BUTTERNUT
47	E	SP	C	5.310	006	MYRICA PENNSYLVANICA	BAYBERRY
48	S	SA	N	8.005	026	HEMIDACTYLUM SCUTATUM	FOUR-TOED SALAMANDER
49	P	SP	C	11.517	029	SHEPHERDIA CANADENSIS	CANADIAN BUFFALO-BERRY
50	P	SP	C	11.893	012	MELAMPYRUM LINEARE	COW-WHEAT
51	P	SP	C	11.398	018	PYCNANTHEMUM MUTICUM	BLUNT MOUNTAIN-MINT

APPENDIX B

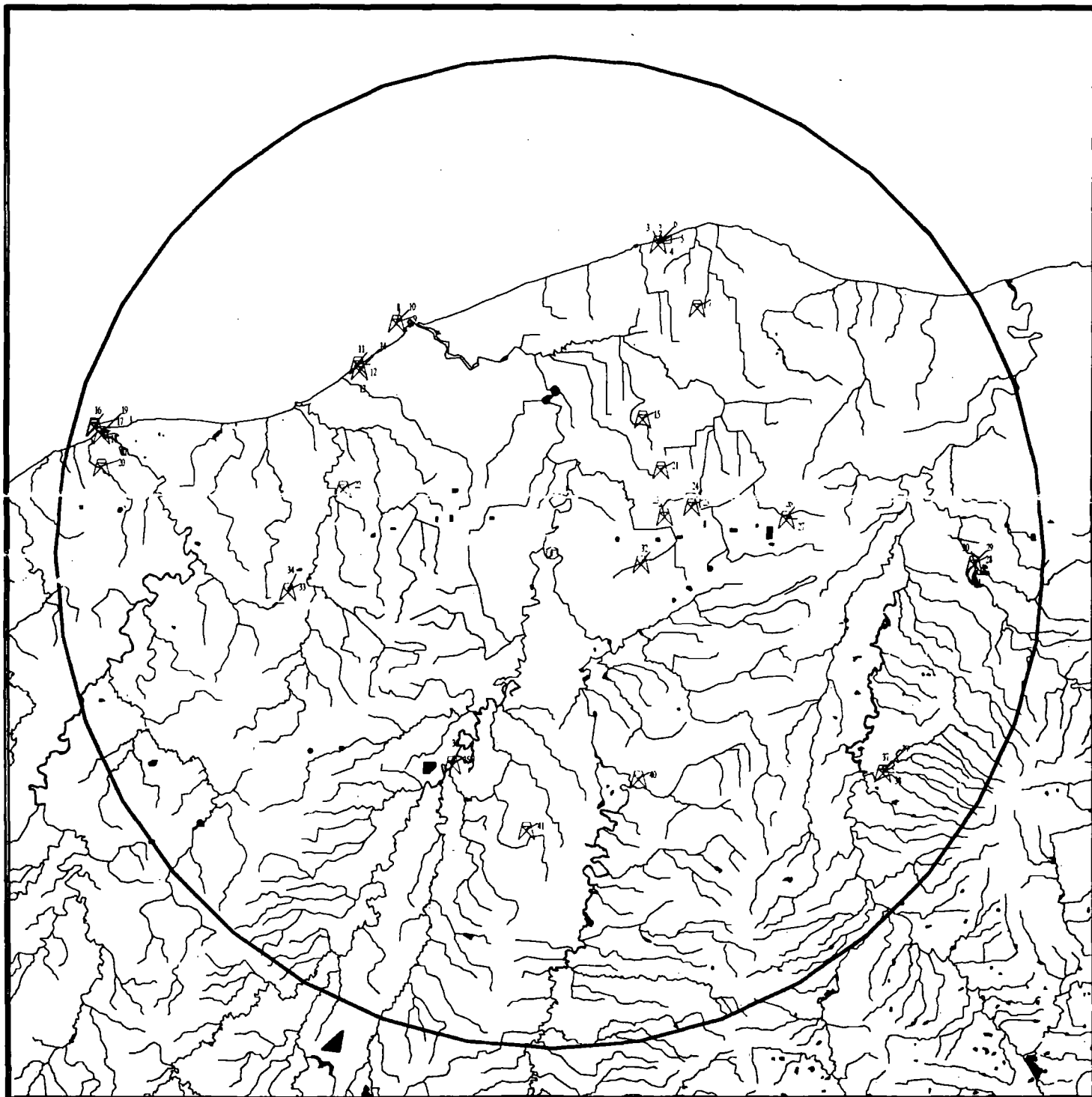
SENSITIVE ENVIRONMENTS MAP (15-MILE TDL)

OhioEPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

COMMUNITY PUBLIC WATER SUPPLY SYSTEMS
CHEMICAL RECOVERY SYSTEMS



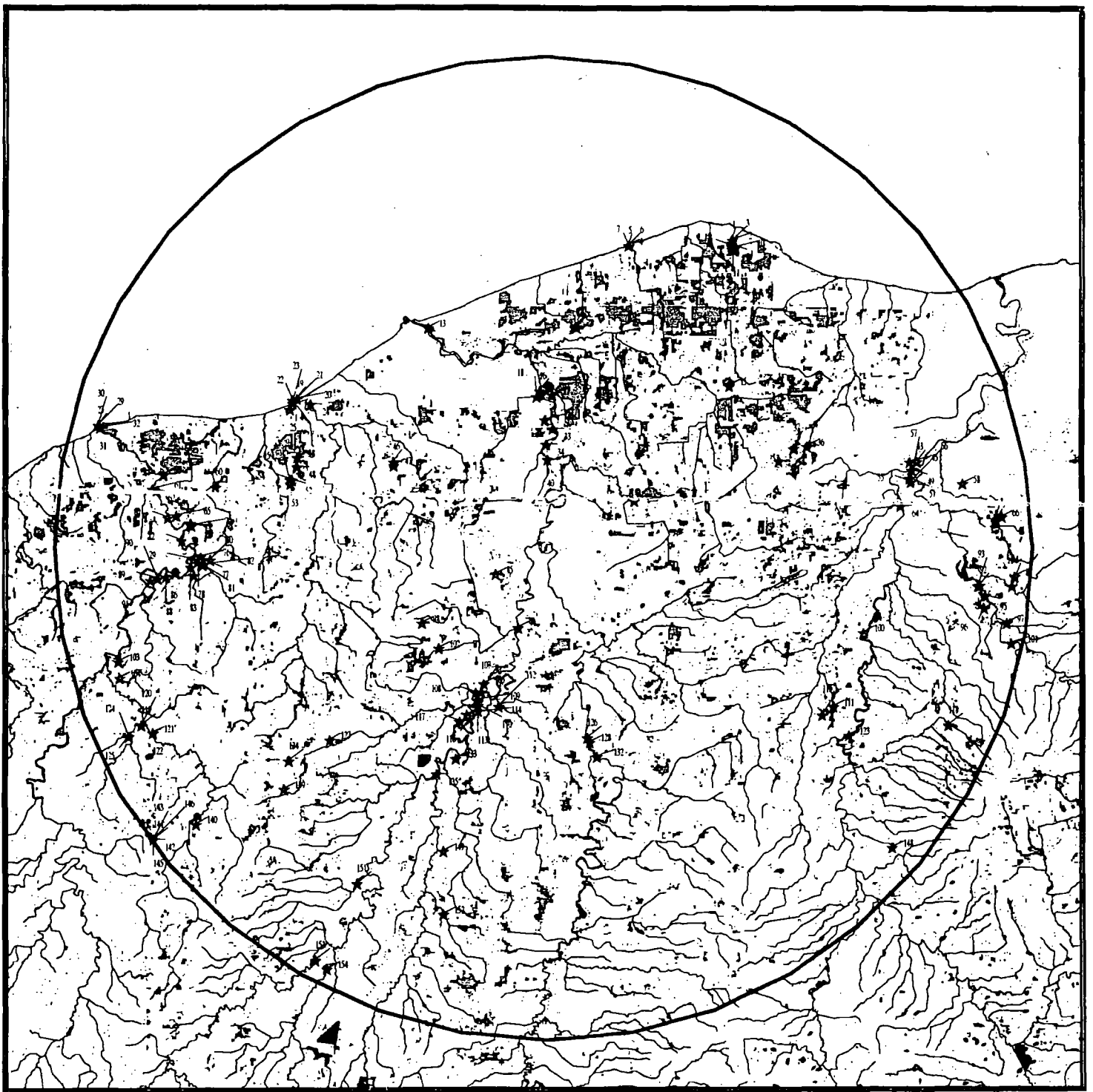
09/11/97

Ohio EPA
Division of Emergency & Remedial Response
Community Public Water Supplies within 15 miles of CHEMICAL RECOVERY SYSTEMS

ID#	PWS-ID	SOURCE NUMBER	SOURCE CODE	SYSTEM SOURCE	SYSTEM TYPE	SYSTEM NAME	ADDRESS		DISTANCE (MILES)	POPULATION SERVED
1	4700203	01	P	P	C	AVON, CITY OF	35030 DETROIT RD	AVON	OH 9.918	8,000
2	4700311	01	S	S	C	AVON LAKE, CITY OF	33370 LAKE ROAD	AVON LAKE	OH 9.918	18,121
3	4701411	03	P	S	C	SOUTH AMHERST, VILLAGE O	103 WEST MAIN STREET	SOUTH AMHERST	OH 9.918	1,850
4	4701803	01	P	P	C	RURAL LORAIN CO. WATER A	42401 STATE ROUTE 303	LAGRANGE	OH 9.918	42,900
5	4700311	02	T	S	C	AVON LAKE, CITY OF	33370 LAKE ROAD	AVON LAKE	OH 9.918	18,121
6	4701103	01	P	P	C	SHEFFIELD LAKE, CITY OF	4750 RICHELIEU AVENUE	SHEFFIELD LAKE	OH 9.918	9,800
7	4701803	02	T	P	C	RURAL LORAIN CO. WATER A	42401 STATE ROUTE 303	LAGRANGE	OH 8.653	42,900
8	4701103	02	P	P	C	SHEFFIELD LAKE, CITY OF	4750 RICHELIEU AVENUE	SHEFFIELD LAKE	OH 8.415	9,800
9	4700711	02	T	S	C	LORAIN, CITY OF	1106 FIRST STREET	LORAIN	OH 8.415	71,000
10	4700711	01	S	S	C	LORAIN, CITY OF	1106 FIRST STREET	LORAIN	OH 8.415	71,000
11	4700411	02	T	S	C	ELYRIA WATER DEPARTMENT	3628 WEST ERIE AVENUE	LORAIN	OH 8.200	67,885
12	4700411	01	S	S	C	ELYRIA WATER DEPARTMENT	3628 WEST ERIE AVENUE	LORAIN	OH 8.200	67,885
13	3902403	01	P	P	C	ERIE HURON COUNTY RWA	PO BOX 96	COLLINS	OH 8.048	11,700
14	3902403	02	T	P	C	ERIE HURON COUNTY RWA	PO BOX 96	COLLINS	OH 8.048	11,700
15	4701203	01	P	P	C	SHEFFIELD, VILLAGE OF	4820 DETROIT ROAD	ELYRIA	OH 4.944	2,500
16	2200803	01	P	P	C	ERIE CO. VERMILION DIST	2614 SOUTH COLUMBUS AVENUE	SANDUSKY	OH 14.361	888
17	2201511	01	S	S	C	VERMILION, CITY OF	537 NORTH MAIN STREET	VERMILION	OH 14.361	11,000
18	2201511	03	T	S	C	VERMILION, CITY OF	537 NORTH MAIN STREET	VERMILION	OH 14.337	11,000
19	2201511	02	S	S	C	VERMILION, CITY OF	537 NORTH MAIN STREET	VERMILION	OH 14.087	11,000
20	2200803	02	T	P	C	ERIE CO. VERMILION DIST	2614 SOUTH COLUMBUS AVENUE	SANDUSKY	OH 13.880	888
21	4701203	03	P	P	C	SHEFFIELD, VILLAGE OF	4820 DETROIT ROAD	ELYRIA	OH 4.189	2,500
22	4700003	01	P	P	C	AMHERST, CITY OF	647 PARK AVENUE PO BOX 470	AMHERST	OH 6.603	10,332
23	4701203	02	P	P	C	SHEFFIELD, VILLAGE OF	4820 DETROIT ROAD	ELYRIA	OH 4.480	2,500
24	4700803	01	P	P	C	NORTH RIDGEVILLE, CITY O	7307 AVON BELDEN ROAD	NORTH RIDGEVILLE	OH 4.480	23,000
25	4700803	03	S	P	C	NORTH RIDGEVILLE, CITY O	7307 AVON BELDEN ROAD	NORTH RIDGEVILLE	OH 3.594	23,000
26	7803911	02	T	S	C	WEST FARMINGTON, VLG. OF	P.O. BOX 215	WEST FARMINGTON	OH 7.199	1,100
27	7803911	01	S	S	C	WEST FARMINGTON, VLG. OF	P.O. BOX 215	WEST FARMINGTON	OH 7.199	1,100
28	1800111	03	S	S	C	BEREA, CITY OF	11 BERE COMMONS	BEREA	OH 12.882	19,000
29	1800111	01	S	S	C	BEREA, CITY OF	11 BERE COMMONS	BEREA	OH 12.882	19,000
30	1800111	02	T	S	C	BEREA, CITY OF	11 BERE COMMONS	BEREA	OH 12.882	19,000
31	1800111	04	S	S	C	BEREA, CITY OF	11 BERE COMMONS	BEREA	OH 12.867	19,000
32	4700803	02	P	P	C	NORTH RIDGEVILLE, CITY O	7307 AVON BELDEN ROAD	NORTH RIDGEVILLE	OH 2.708	23,000
33	4701411	02	T	S	C	SOUTH AMHERST, VILLAGE O	103 WEST MAIN STREET	SOUTH AMHERST	OH 8.066	1,850
34	4701411	01	S	S	C	SOUTH AMHERST, VILLAGE O	103 WEST MAIN STREET	SOUTH AMHERST	OH 8.066	1,850
35	4700911	01	S	S	C	OBERLIN WATER DEPARTMENT	85 S.MAIN STREET	OBERLIN	OH 7.069	8,600
36	4700911	02	T	S	C	OBERLIN WATER DEPARTMENT	85 S.MAIN STREET	OBERLIN	OH 7.069	8,600
37	5201903	02	T	P	C	MEDINA CO/NORTHWEST WATE	PO BOX 542	MEDINA	OH 12.021	13,131
38	5201903	01	P	P	C	MEDINA CO/NORTHWEST WATE	PO BOX 542	MEDINA	OH 12.021	13,131

39 5200712	05 P	G	C	MEDINA CO/CHIPPEWA LAKE	PO BOX 542	MEDINA	OH	12.021	2,811
40 4700511	01 P	P	C	GRAFTON, VILLAGE OF	1009 CHESTNUT STREET	GRAFTON	OH	7.278	2,800
41 4700603	01 P	P	C	LAGRANGE, VILLAGE OF	PO BOX 597	LAGRANGE	OH	8.407	1,200

NATURAL HERITAGE DATA CHEMICAL RECOVERY SYSTEMS



★ FEDERAL ENDANGERED SPECIES

★ STATE ENDANGERED SPECIES

— LIMIT OF RADIUS FROM SITE

— STREAM

⊕ SITE

0 5 MILES



APPENDIX C

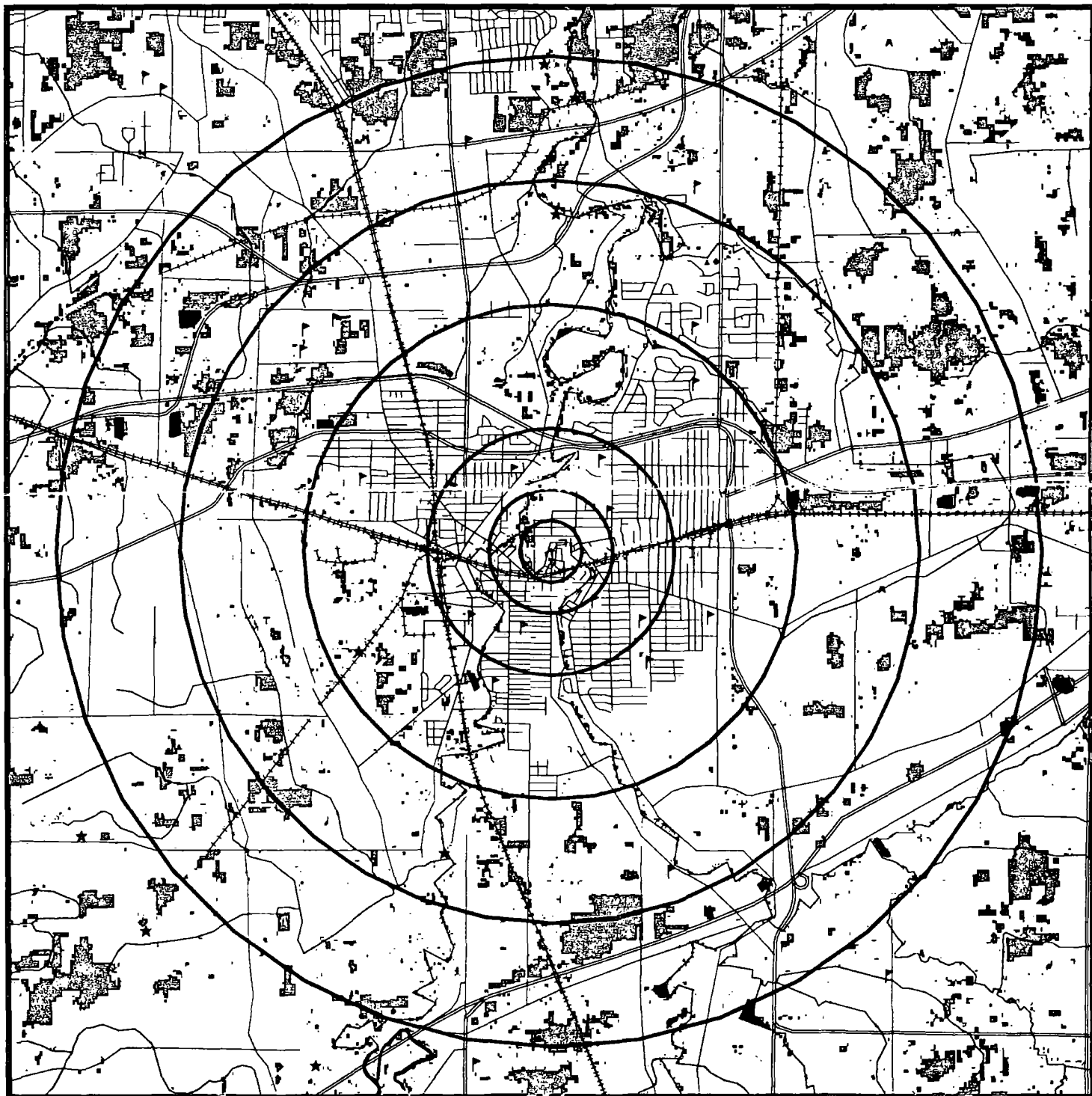
SENSITIVE ENVIRONMENTS MAP (4-MILE POPULATION RING)

OhioEPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

Lorain County CHEMICAL RECOVERY SYSTEMS



APPENDIX D

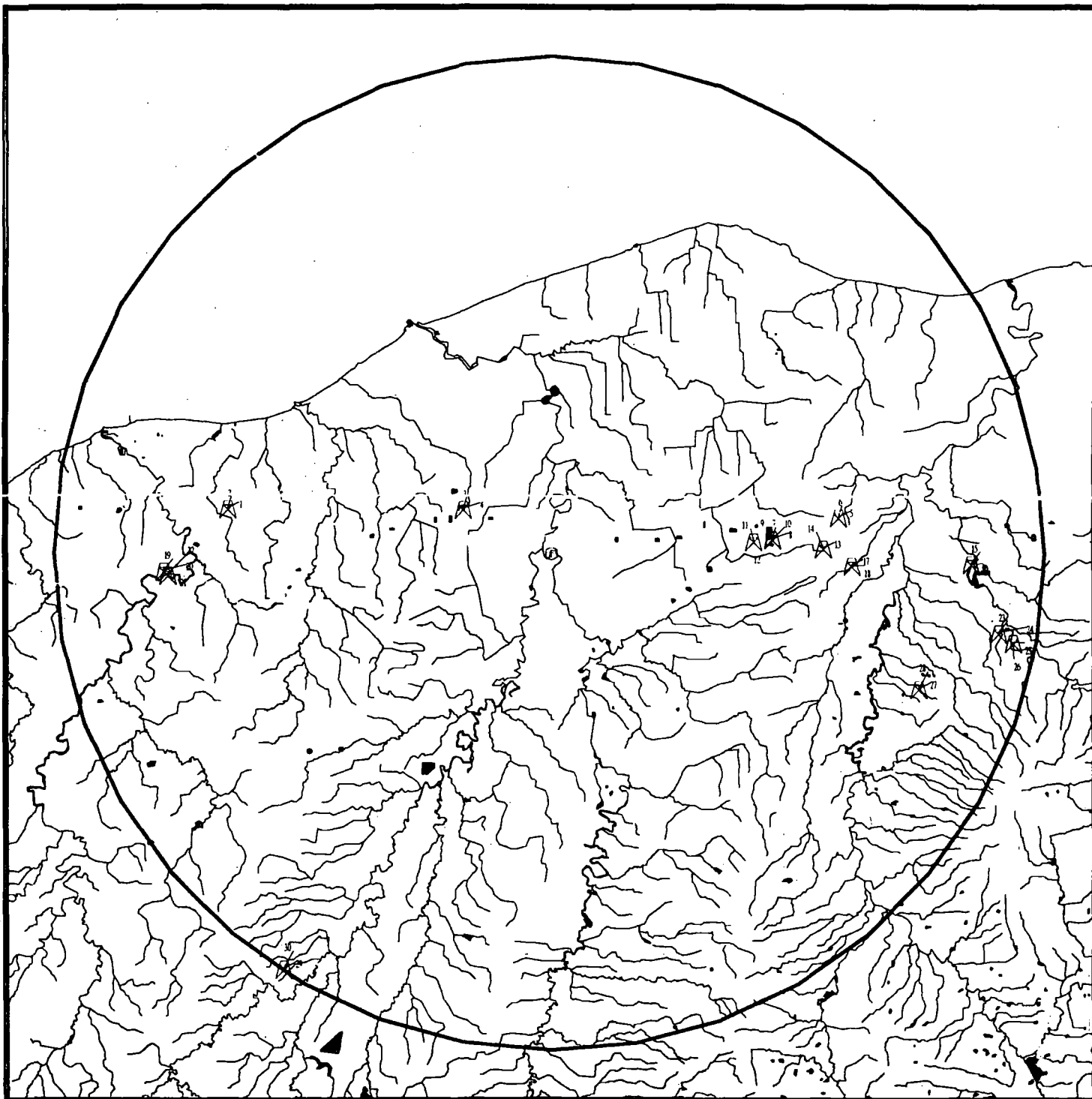
NONCOMMUNITY PUBLIC WATER SUPPLY SYSTEMS

OhioEPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NONCOMMUNITY PUBLIC WATER SUPPLY SYSTEMS
CHEMICAL RECOVERY SYSTEMS



Ohio EPA
Division of Emergency & Remedial Response
Noncommunity Public Water Supplies within 15 miles of CHEMICAL RECOVERY SYSTEMS

ID#	PWS-ID	SOURCE NUMBER	SOURCE CODE	SYSTEM SOURCE	SYSTEM TYPE	SYSTEM NAME	ADDRESS		DISTANCE (MILES)	POPULATION SERVED	
1	2231012	01	G	G	N	CAMP TIMBERLANE	13408 GREEN ROAD	WAKEMAN	OH	9.863	150
2	2231012	02	T	G	N	CAMP TIMBERLANE	13408 GREEN ROAD	WAKEMAN	OH	9.863	150
3	4733312	02	T	G	N	KOINIA PARK ASSOCIATION	1925 E. 32ND STREET #2	LORAIN	OH	2.983	250
4	4733312	01	G	G	N	KOINIA PARK ASSOCIATION	1925 E. 32ND STREET #2	LORAIN	OH	2.983	250
5	1834112	01	G	G	N	HALL GARDENS	7288 MCKENZIE ROAD	OLMSTEAD TWP.	OH	8.794	25
6	1834112	02	T	G	N	HALL GARDENS	7288 MCKENZIE ROAD	OLMSTEAD TWP.	OH	8.794	25
7	4731012	01	G	G	N	CRYSTAL SPRINGS CLUB STO	31478 BAGLEY ROAD	NORTH RIDGEVILLE	OH	6.721	25
8	4731012	02	T	G	N	CRYSTAL SPRINGS CLUB STO	31478 BAGLEY ROAD	NORTH RIDGEVILLE	OH	6.721	25
9	4730912	02	T	G	N	CRYSTAL SPRINGS CLUB-FOU	31478 BAGLEY ROAD	NORTH RIDGEVILLE	OH	6.734	215
10	4730912	01	G	G	N	CRYSTAL SPRINGS CLUB-FOU	31478 BAGLEY ROAD	NORTH RIDGEVILLE	OH	6.734	215
11	4737312	02	T	G	N	AUTORAMA TWIN THEATER	33395 LORAIN ROAD	NORTH RIDGEVILLE	OH	6.154	100
12	4737312	01	G	G	N	AUTORAMA TWIN THEATER	33395 LORAIN ROAD	NORTH RIDGEVILLE	OH	6.154	100
13	1840412	01	G	G	N	DONUTS & MORE	27133 BAGLEY ROAD	OLMSTEAD TWP.	OH	8.268	50
14	1840412	02	T	G	N	DONUTS & MORE	27133 BAGLEY ROAD	OLMSTEAD TWP.	OH	8.268	50
15	1839512	01	G	G	N	IRISH AMER.CLUB-WESTSIDE	9613 MADISON AVENUE	CLEVELAND	OH	12.781	25
16	1839512	02	T	G	N	IRISH AMER.CLUB-WESTSIDE	9613 MADISON AVENUE	CLEVELAND	OH	12.781	25
17	1838812	01	G	G	N	OLMSTED FALLS BOARDOFED.	26894 SCHADY ROAD	OLMSTED FALLS	OH	9.143	25
18	1838812	02	T	G	N	OLMSTED FALLS BOARDOFED.	26894 SCHADY ROAD	OLMSTED FALLS	OH	9.143	25
19	4734112	01	G	G	N	THOUSAND ADV INC-EASTSID	51900 PORTMAN ROAD	AMHERST	OH	11.711	150
20	4734112	02	T	G	N	THOUSAND ADV INC-EASTSID	51900 PORTMAN ROAD	AMHERST	OH	11.711	150
21	4734312	02	T	G	N	THOUSAND ADV INC-WEST SI	51900 PORTMAN ROAD	AMHERST	OH	11.601	150
22	4734312	01	G	G	N	THOUSAND ADV INC-WEST SI	51900 PORTMAN ROAD	AMHERST	OH	11.601	150
23	1840512	02	T	G	N	WINTERGREEN CABIN	9487 EASTLAND ROAD	STRONGSVILLE	OH	13.809	60
24	1840512	01	G	G	N	WINTERGREEN CABIN	9487 EASTLAND ROAD	STRONGSVILLE	OH	13.809	60
25	1836812	01	G	G	N	CLEV.METROPKS/ALBION WOO	9485 EASTLAND ROAD	STRONGSVILLE	OH	14.303	50
26	1836812	02	T	G	N	CLEV.METROPKS/ALBION WOO	9485 EASTLAND ROAD	STRONGSVILLE	OH	14.303	50
27	4733112	01	G	G	N	HICKORY NUT GOLF CLUBHOU	23601 ROYALTON ROAD	COLUMBIA STATION	OH	11.887	200
28	4733112	02	T	G	N	HICKORY NUT GOLF CLUBHOU	23601 ROYALTON ROAD	COLUMBIA STATION	OH	11.887	200
29	4736912	01	G	G	N	PANTHER TRAILS CAMPGROUN	48081 PECK-WADSWORTH ROAD	WELLINGTON	OH	14.901	200
30	4736912	02	T	G	N	PANTHER TRAILS CAMPGROUN	48081 PECK-WADSWORTH ROAD	WELLINGTON	OH	14.901	200

APPENDIX E

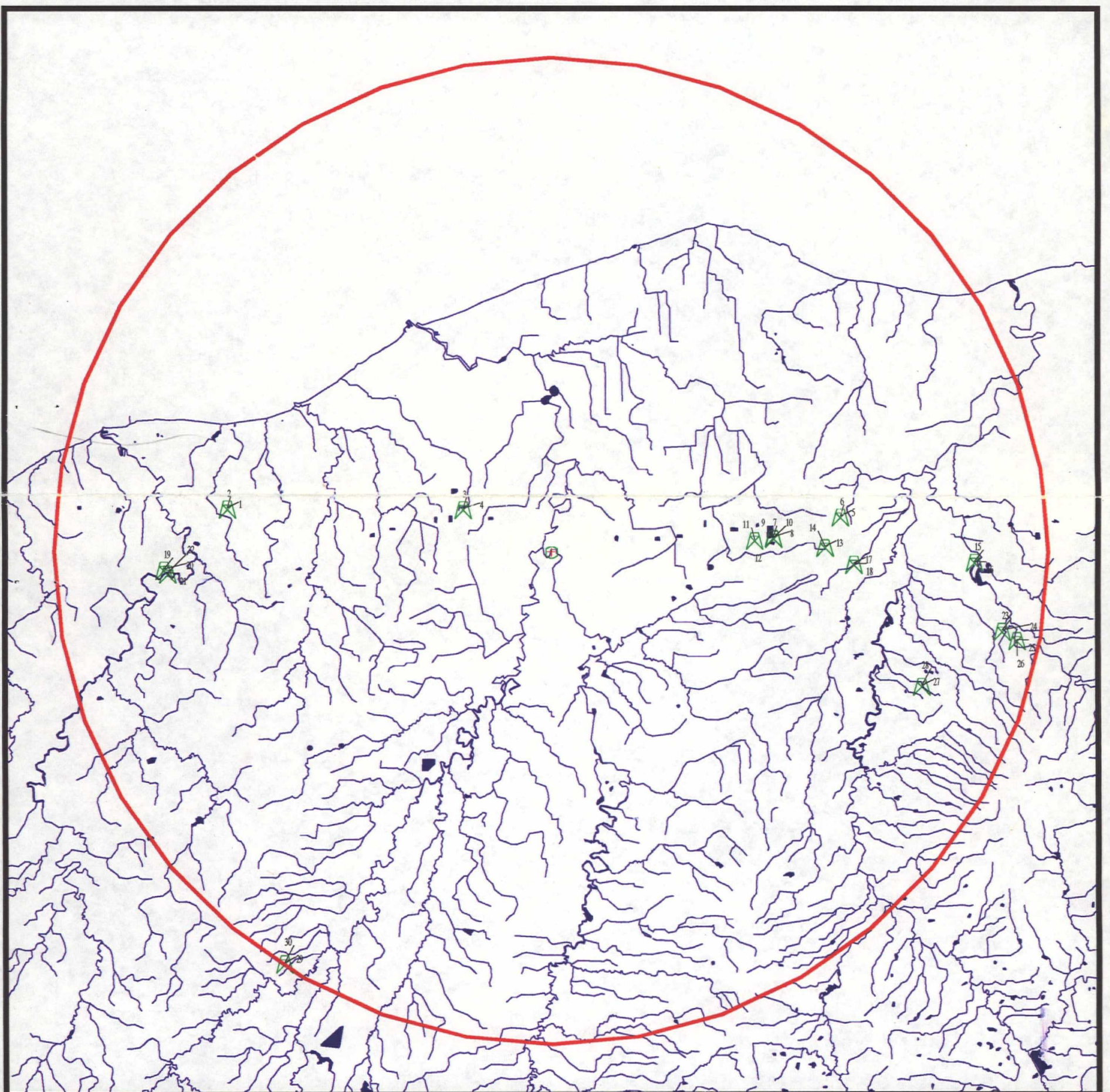
COMMUNITY PUBLIC WATER SUPPLY SYSTEMS









Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

**NONCOMMUNITY PUBLIC WATER SUPPLY SYSTEMS
CHEMICAL RECOVERY SYSTEMS**



-  PUBLIC SURFACE-WATER SYSTEM
-  PUBLIC GROUND-WATER SYSTEM
-  DISTRIBUTION OR TAP
-  STREAM
-  LIMIT OF RADIUS FROM SITE
-  SITE






Division of Emergency & Remedial Response


GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

COMMUNITY PUBLIC WATER SUPPLY SYSTEMS
CHEMICAL RECOVERY SYSTEMS




 PUBLIC SURFACE-WATER SYSTEM

 PUBLIC GROUND-WATER SYSTEM

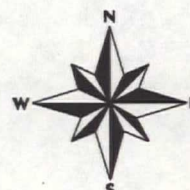
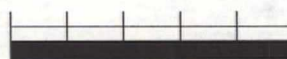
 DISTRIBUTION OR TAP

 STREAM

 LIMIT OF RADIUS FROM SITE

 SITE

0 5 MILES

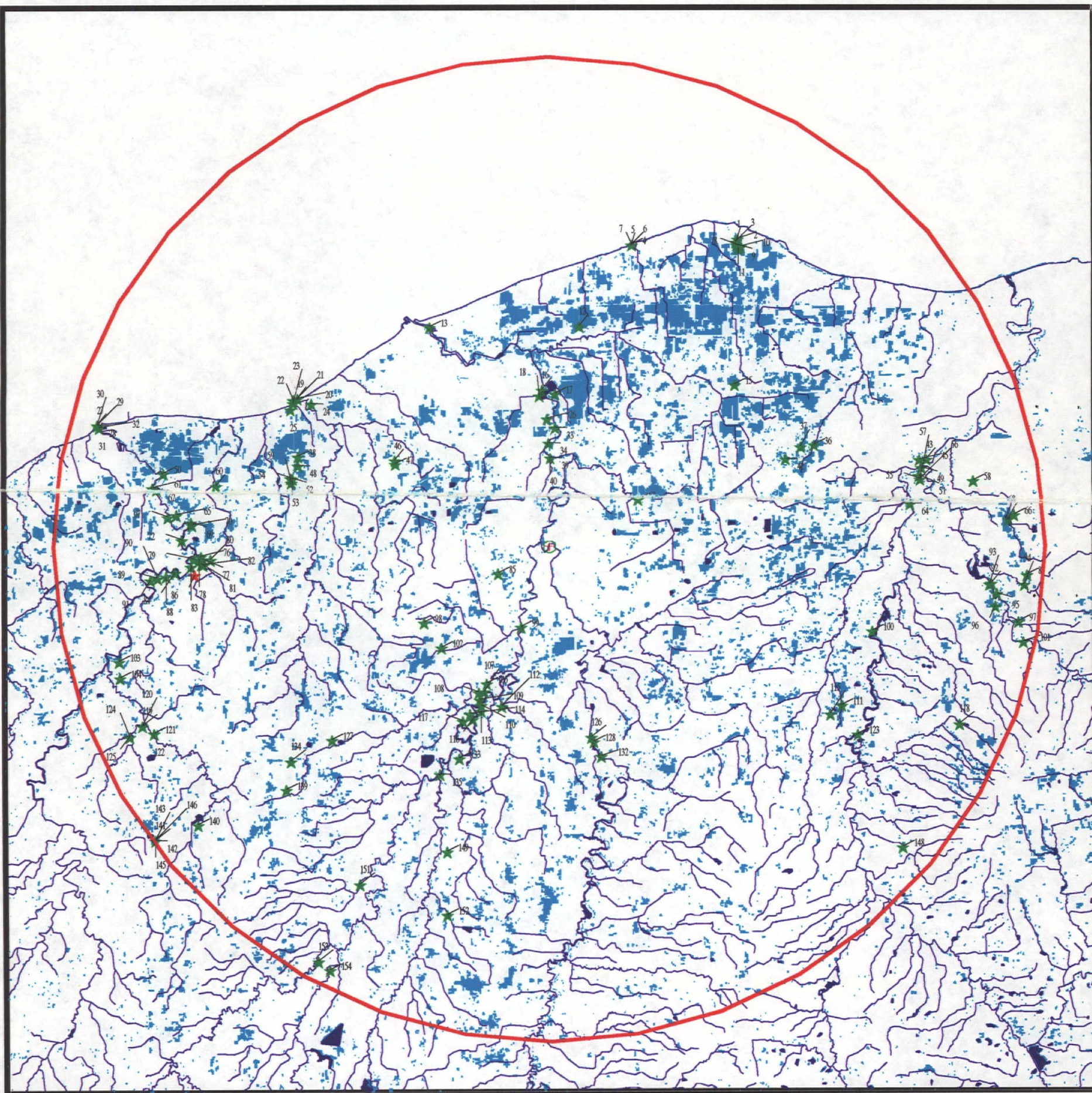




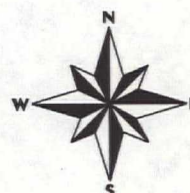
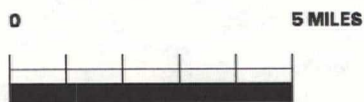
Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NATURAL HERITAGE DATA
CHEMICAL RECOVERY SYSTEMS



- ★ FEDERAL ENDANGERED SPECIES
- ★ STATE ENDANGERED SPECIES
- LIMIT OF RADIUS FROM SITE
- STREAM
- ⊕ SITE

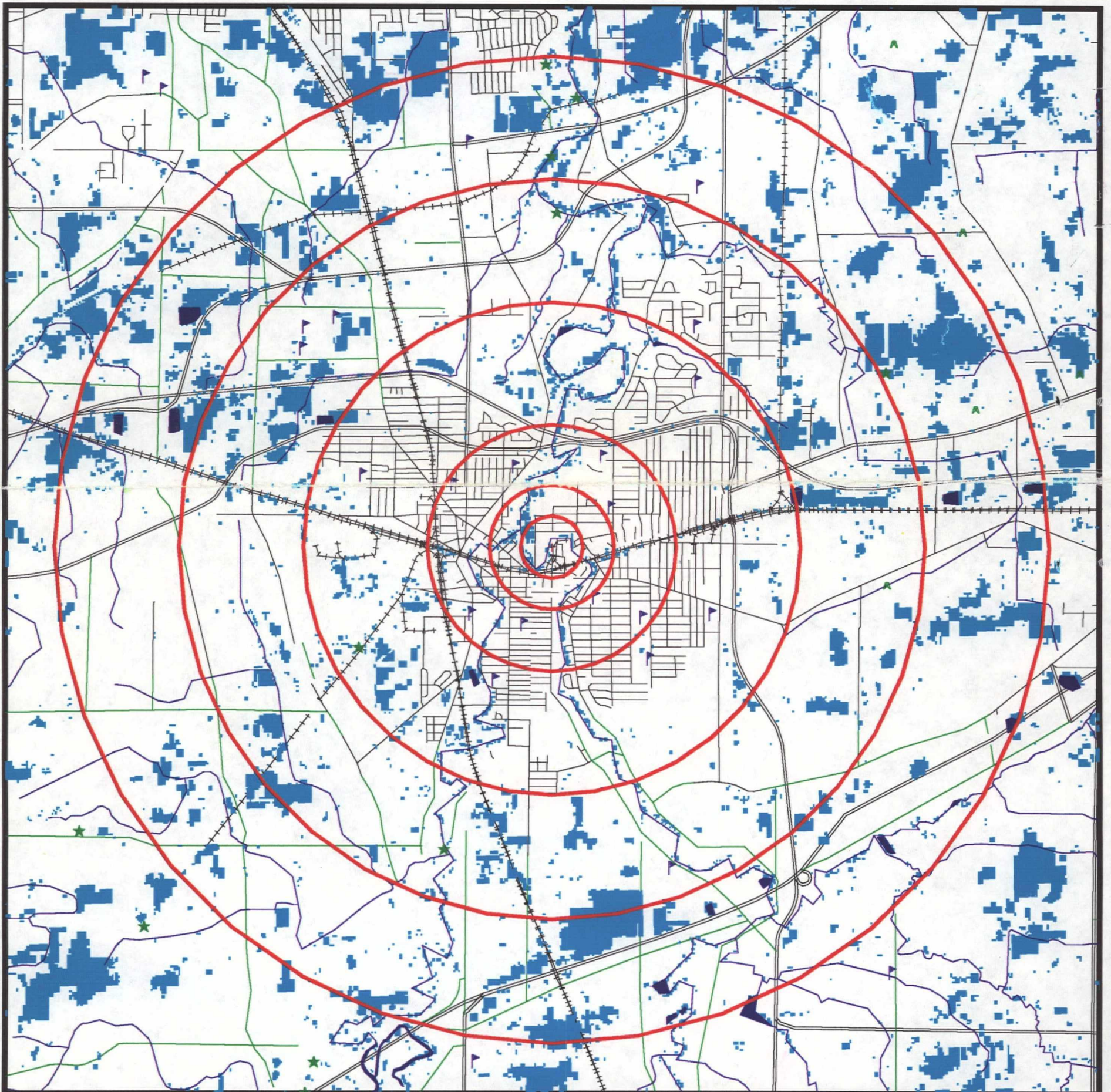


OhioEPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

Lorain County CHEMICAL RECOVERY SYSTEMS



- | | | |
|-------------------------------|-----------------------------|----------------|
| ▬ School | ▬ COUNTY BOUNDARY | ■ WETLAND AREA |
| ⊕ Hospital | — LIMIT OF RADIUS FROM SITE | |
| ★ FEDERAL ENDANGERED SPECIES | — COUNTY ROAD | |
| ★ STATE ENDANGERED SPECIES | — MUNICIPAL ROAD | |
| ▲ PUBLIC SURFACE-WATER SYSTEM | — STATE OR FEDERAL HIGHWAY | |
| ▲ PUBLIC GROUND-WATER SYSTEM | ++++ RAILROAD | |
| | — STREAM | |
| | ⊕ SITE | |

1 0 1 2 MILES

